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CONTENTS.

PAGE

LEADING ARTICLES.

Pharmacological Studies of Aspirin. By Prof. Dr. H. DRESER. 1

SELECTED.

Antipyretics in Children. By J. G. McGEE, M.D. 8

The Antiperiodic Treatment of Insanity. By EDWARD ANDERSON, M.D 11

Tonsillitis of Influenza. By S. S. BISHOP, M.D 12

To Heal Vaccination Sores. By A. K. BOND, M.D. 13

CORRESPONDENCE.

An Omitted Decimal Point. 15

Hydrarg. Bichlorid. for Eczema. 15

EDITORIAL.

Standardization of Drugs 16

PAGE

CURRENT LITERATURE.

Trichloracetic Acid for Persistent Perforation of the Membrana Tympani 15

The Nutritive Value of Petroleum Emulsions 17

Orthoform in Toothache 17

Tropacocain for the Eye 17

Alcarnose, a nutrient 18

Pelotine muriate, hypnotic 18

Cocainization of the Spinal Cord. 18

Poison Oak Dermititis 18

Rational Therapeutics in Epilepsy 19

Treatment of Chorea Infantum 19

Carbolic Acid Poisoning 19

Condurango in the Treatment of Dyspepsia 20

The Vomiting of Pregnancy 20

PAGE

RECENT MEDICAMENTS.

Alcarnose 18

Antipyrin 12

Aspirin 1

Ferratose 20

Kryofin 9

Lactophenin 9

Pelotine Muriate 18

Phenacetin 9

Tropacocain 17

SELECTED FORMULAS.

Children's Emetic 7

For Cholera Morbus 15

For Sciatica 19

For Gout 20

For Coryza 20

London Cough Mixture 20

NEW PUBLICATIONS 20

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ESTABLISHED 1891, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

LEADING ARTICLES.

Lactophenin. By CLARENCE S. ELDREDGE, M.D. 21
Sleeplessness: Its Cause and Treatment. By E. S. PETTIJOHN, M.D. 23
Gall Stones. By D. C. BROCKMAN, M.D. 27
Chrysarobin a Specific for Warts. By G. W. FITZ, M.D. 31
Method of Using Protargol in Gonorrhœa. By J. S. NAGEL, M.D. 32
Treatment of Pneumonia. By A. CHASE, M.D. 33

EDITORIAL.

Patented New Remedies 35

CURRENT LITERATURE.

Hypodermic Saline Solutions 23
What the Human Body will Yield. 27
The Uses of Hyoscine (Scopolamine) 36
The Pancreas in Hereditary Syphilis 37
The Iron in Liver and Spleen 37
To Remove the Odor of Iodoform 38
Imagino-Therapy 38
Antistreptococcic Serum in the Treatment of Puerperal Infection 38
Antipyrin in the Treatment of Chorea 39
Salicylic Acid in the Treatment of Pneumonia 39
Tropon 40
Thyroid Extract in Defective Children 40
Bronchitis, Formula for 40
Ergot in the Sore Throat of Phthisis 35
Dermatol in Diarrhea of Children 35
Hay Fever 40

RECENT MEDICAMENTS.

Antipyrin 33, 35, 39
Dermatol 35
Hetokresol 32
Hetol 32
Lactophenin 21
Orthoform 35
Phenacetin 35
Protargol 32
Saccharin 35
Serum, Antistreptococcic 38
Sulfonal 26, 35
Suprarenal Capsule 35
Thyroid Extract 40
Trional 26
Tropon 40

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ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

	PAGE
ORIGINAL ARTICLES.	
Hay Fever. Drs. BOGGESS, CHEATHAM, EVANS and WATHEN	41
Subconjunctival Injections in Interstitial Keratitis. By A. W. SMYTH, M.D.	43
SELECTED.	
Acute Tonsillitis in an Infant of Five Months. By T. G. BROWNSON, M.D.	45
Do We Need Iodoform? By F. A. DUNSMORE, M.D.	45
A Note on Arecoline. By J. C. CLEMESHA, M.D.	46
An External Application in Scarlet Fever. By FRANCIS H. WILLIAMS, M.D.	47
The Use and Abuse of the Douche. By D. B. Kyle, M.D.	47
Suprarenal Extract in the Treatment of Addison's Disease. By R. A. BATE, M.D.	48
EDITORIAL.	
Dr. A. L. Benedict: Announcement	51
The Pharmacopœia	51
Editorial Notes	52
CURRENT LITERATURE.	
Cocain Anesthesia, Caution in	43
Acute Rheumatism, Local Applications	43
Suprarenal Extract in Ophthalmology	44
Carbolic Acid, Caustic Effect of	44
Liquid Air, Clinical Uses of	46
Laxative, a Mechanic	50
Puerperal Eclampsia	53
Arsenical Caustic Treatment of Cutaneous Cancers	53
Creosote in Malaria	53
Guaiamar	54
Uric Acid Diathesis	54
Nuclein Compounds	55
The Passing of Pepsin	55
Acute Peritonitis	56
Incontinence of Urine	56
Naphtalinum, U. S. P.	56
Chorea	57
Hysteria	57
Treatment of Erysipelas	57
Cystitis	58
Acute Septic Rhinitis of Childhood	58
Diarrhea Mixture without Opium	60
Guaiacol, Locally	60
BOOK NOTICES.	
Materia Medica and Therapeutics: WILLIAM SCHLEIF	59
Diseases of the Eye: GEORGE M. GOULD and W. L. PYLE	59
Pathology and Treatment of Sexual Impotence: V. G VECKI	60
American Pocket Medical Dictionary: W. A. N. DORLAND	60
RECENT MEDICAMENTS.	
Antipyrin	55, 58
Argentamin	59
Argonin	59
Aristol	46
Creolin	59
Cuprol	55
Dermatol	46
Ferratin	59
Ferrinol	55
Guaiamar	54
Iodol	46
Kairin	59
Kryofin	59
Lactophenin	59
Lycetol	59
Lysol	59
Mercurol	55
Nargol	55
Nucleol	55
Piperazin	59
Protargol	58
Suprarenal Extract	44, 48
Urotropin	59

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ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

ORIGINAL ARTICLES.

The Administration of Chloroform. By F. H. McGUIRE, M.D. 61
On the Resuscitation of the Apparently Dead Newborn. By F. E. FRONCZAK, M.D. 63

SELECTED.

Resorcin in Gonorrhea. By Jos. ADOLPHUS, M.D. 64
The Home Treatment of Consumption. By ALBERT ABRAMS, M.D. 65
Treatment of Lobar Pneumonia. By JOHN G. CECIL, M.D. 66
The Treatment of Acute Conjunctivitis. By EDWARD JACKSON, M.D. 69
Medical and Surgical Treatment. By WALTER B. PLATT, M D. 70
Notes on the Treatment of Rickets. By E. MANSEL SYMPSON, M.D. 71

EDITORIAL.

Anesthetics 73
Civilization and Sanitation 74
Peptonizing Power of Hydrochloric Acid 74
Usefulness of Petroleum 75

PAGE

THERAPEUTIC GLEANINGS.

Bleeding — Argonin — Aspidium Spiluloeum — Pilocarpine — Sycose—Quinine Hydrobromate 75

CURRENT LITERATURE.

Mercury Injections Made Painless 64
Gelato-Glycerin Bougies in the Treatment of Earache 68
Massage and Relief of Eye-strain in the Treatment of Glaucoma 76
Tetanus Treated by Intracerebral Injection 76
Cocainization of the Spinal Cord 76
Beta-Eucain as a Local Anesthetic 76
How Burns Kill and How to Treat Them 77
Lactic Acid in Vaginitis and Endometritis 77
A New Treatment of Lupus Vulgaris 77
Addition of Chloroform to Alcoholic Solutions of Bromoform 78
Rheumatism and Cardiac Diseases 78
To Abort a Cold 78
Cinchona *versus* Quinine 78
Pneumonia 79

PAGE

Saline Infusions in Pneumonia 79
Typhoid Bacilli in the Urine 80
Typhoid Treatment 80
Cystitis in Infants 80
Summer Complaint 81
Tuberculous Adenitis 81
Extemporaneous Milk-food 84
Deaths from Anesthesia 84

BOOK NOTICES.

Elements of Clinical Diagnosis: KLEMPERER (BRILL-BRICKNER) 83
Diseases of the Nose and Throat: D. BRAYDEN KYLE 83
Atlas of Diseases of the Skin: FRANZ MARCEK (STELLWAGEN) 83
The Hygiene of Transmissible Diseases: A. C. ABBOTT 84

RECENT MEDICAMENTS.

Argonin 75
Beta-Eucain 75
Eudoxin 81
Guaiacol Carbonate 80
Holocain 69
Lysol 80
Salacetol 75
Salol 75, 80, 81
Serum, Antitetanic 76
Sycose 75
Urotropin (2) 80

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ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

ORIGINAL ARTICLES.

Formalin: Its Good and Bad Qualities. By ELY VAN DE WARKER, M.D. 85
Papain in Children's Practice. By Dr. Goliner 89
Clinical Observations upon Peptomangan. By Paul Chester, M.D. 91
Diabetes. Discussion before the Louisville Medico-Chirurgical Society 92
Gleanings in Toxicology: Larkspur—Urticaria from Odors—Argyria—Phosphorus—Carbolic Acid—Cocaine—Antiseptics in Food—Caffeine—Thyroidism 96

EDITORIALS.

Pure Milk 97
Is Acetanilid Dangerous? 98
Serum of Convalescents and the Theory of Semelincidence 99
The Status of Therapeutics 100

THERAPEUTIC GLEANINGS.

Liquid Air—Asparagus—Chrysarobin—Massage—Anesthetic Mixtures—Aneurysm—Fever .. 101

PAGE

CURRENT LITERATURE.

Morphia for Tape-worms 90
Quinine Administration 102
Potassium Permanganate in Dysentery 102
Purgation after Coeliotomies 102
Mammary Extract 102
Chorea, Treatment of 102
Silver Preparations 102
Protargol in Gonorrhea 102
Antistreptococcic Serum 103
Hyperemesis Gravidarum 103
Laborde's Method 103
Ozone for Therapeutic Use 103
Mydriatics 104
Malaria 104
Limitations of Hydrotherapy in Typhoid 104
Safe Delivery 105
Cocaine, Rapid Effect of 105
Eczema, Treatment of 105
Chronic Eczema, Treatment of .. 106
Chorea, Treatment of 106

BOOK NOTICES.

Essentials of Medical Chemistry: WOLFF-JELLIFFE 107

PAGE

Essentials of Diseases of the Skin: STELWAGON 107
Plants Poisonous to Stock: CHESNUT 108
Medical Directory of New York, New Jersey and Connecticut, 1899 108
Physicians' Visiting List, 1900-1900, Blakiston's 108
Laboratory Manual of Physiological Chemistry: ROCKWOOD 108

RECENT MEDICAMENTS.

Antipyrin 106
Argentamin 102
Argonin 102
Benzosol 93
Eucaine 101
Formalin 85
Guaiacol 101
Itrol 102, 103
Jambul 95
Largin 102
Lysol 105
Orthoform 101
Protargol 102, 103
Tang Kui 89
Trional 102

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ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

ORIGINAL ARTICLES.

The Treatment of Uterine Hemorrhages. By SAMUEL M. BRICKNER, M.D. ... 109
Treatment of Gastric Insufficiency. By J. W. BELL, M.D. ... 112
A Contribution to the Treatment of Acute Rheumatism. By G. C. H. MEIER, M.D. ... 114

Gleanings in Toxicology: Carbolic Acid — Gas — Turpentine — Digitalis—Meat—Quinine ... 118

EDITORIAL.

The Double-flow Stomach-tube ... 119
Drugging Patients, and Some other Therapeutic Faults ... 120

CURRENT LITERATURE.

Stomach Massage ... 121
Flexible Collodion ... 122
Sixteen Years' Experience with Gonorrhea ... 122
Modification of Crédé's Method ... 122

PAGE

Treatment of Epilepsy ... 122
Dissolving Action of Digestants ... 122
Treatment of Typhoid Fever ... 123
Lubricant for Catheters ... 123
Antitoxin in Diphtheria ... 123
Treatment of Acid Gastric Catarrh ... 124
Caustic for Anal Ulcers ... 124
Therapy of the Nitrites ... 124
Physiologic Action of Lactophenin ... 125
Pumpkin Seeds for Tape-worm ... 128
PRESCRIPTIONS: For Soft Corns — Pertussis—Pruritus of Scrotum —Hemorrhoids—Malignant Syphilis—Night Sweats—Gout ... 127

BOOK NOTICES.

International Clinics, Vol. 3, 9th Series ... 127
Hand-book of Medical Gymnastics: ANDERS WIDE ... 127
Report on Yellow Fever: U. S. Marine Hospital Service ... 128
Annual Report U. S. Marine Hospital: WALTER WYMAN ... 128

PAGE

RECENT MEDICAMENTS.

Acoin ... 126
Antipyrin Salicylate ... 126
Aspirin ... 115
Caseon ... 126
Dermatol ... 126
Erythrol Tetranitrate ... 126
Eucasol ... 126
Ferratose ... 126
Formalin ... 118, 123
Guacamphol ... 126
Igazol ... 126
Iodopyrin ... 126
Kresosolvin ... 126
Lactophenin ... 125
Lanolin ... 126
Plasmon ... 126
Soson ... 126
Sozoiodol ... 122
Sphagnol ... 126
Stypticin ... 110
Sulfonal ... 126
Thallin ... 122
Trional ... 126
Tropon ... 126
Tuberculin-Soap ... 126

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ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

ORIGINAL ARTICLES.

Portraiture of Medical Practice. By ALBERT ABRAMS, M.D..... 129
A Study of the Value of Alcohol. By J. M. FRENCH, M.D..... 134
New Applications of the Undulatory Current in Gynecology. By Dr. G. APOSTOLI 138
Argonin: Its Use in Acute Urethritis. By T. A. HOPKINS, M.D. 139

EDITORIAL.

New Year's Greeting 143
The Rationale of the Administration of Drugs 144
Proposed Investigation of the Native Drug Plants of the United States 145

CURRENT LITERATURE.

Creasote Inunctions for Malaria . 146
Guaiacol in Pleural Effusions.... 146

PAGE

Malignant Tumor..... 146
Duodenostomy and Jejunostomy 147
Treatment of Pulmonary Emphysema 147
Treatment of Tetanus by Injections of Carbolic Acid 147
Urotropin in Certain Forms of Genito-Urinary Disease 148
Mercury Hypodermatically 148
Piperazin Solution 148
PRESCRIPTIONS: Obesity — Salve Basis — Broncho-pneumonia — Fetid Otorrhea—Pruritus Universalis — Seasickness — Acute Colic—Dental Anesthetics 148
MISCELLANY: Chewing Gum 139
Heroin in Cough 142
Formalin—Heroin 142
Pneumonia Serum 142
Mercury in Milk 142
Asphyxia..... 146
Curangin, a Vermicide 146

PAGE

BOOK NOTICES.

Treatment of Pelvic Inflammations through the Vagina: WM. R. PRYOR 149
Clinical Lectures on Diseases of the Heart, Lungs and Pleura: JOSEPH M. PATTON 150
Pulmonary Tuberculosis: A. KNOPF 150
Text-book of Genito-Urinary and Venereal Diseases: G. F. LYDSTON 150

RECENT MEDICAMENTS.

Argonin 139
Ferratin 150
Formalin 142
Heroin 142
Piperazin 148
Urotropin.....142, 148

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CONTENTS.

PAGE

ORIGINAL ARTICLES.

The Superiority of Holocain to Cocain for Certain Ophthalmic Operations and Diseases. By EDWARD JACKSON, M D. 151
Another Illustration of the Value of the Elevated-Hip Position in Difficult Labor. By ABRAM BROTHERS, M.D. 154
Is Cancer Curable? By J. M. G. CARTER, M.D. 155
Significance of Visual Disturbances During Nephritis. By ADOLPH O. PFINGST, M.D. (with full Society discussion) 156

EDITORIAL.

Asepsis or Antisepsis 162
The Curability of Cancer 163

CURRENT LITERATURE.

Stypticin in Uterine Hemorrhage. 164
Iced Chloroform 164
Cocaine for Vomiting of Pregnancy 164
Asparagus as a Diuretic 164
Puerperal Infection 164
Hydrogen Peroxide 165
To Remove Marks on Skin 165
Tubercular Syphilides 165
Physiology of Circulatory Diseases 165
Hyoscine Hydrobromate in Chorea 166
An Opium Habitué of Nine Months 166
Medical Treatment of Movable Kidney 166
Treatment of Goitre 166
Atropine in Diarrhea 167
Massage with Quicksilver 167
X-Ray Effects 167
PRESCRIPTIONS: Morrell's Antiseptic Liquid—Whooping Cough—Lanoline Ointment Base—Functional Dyspepsia—Hypodermic Quinine — Chapped Hands — Gonorrheal Rheumatism 167

PAGE

BOOK NOTICES.

Materia Medica and Therapeutics: F. ELLINGWOOD and J. U. LLOYD 168
Study of the Hand for Indications of Local and General Disease: EDWARD BLAKE 168
Surgical Complications and Sequelae of Typhoid Fever: W. W. KEEN 168
The Physician's Business and Financial Adviser: C. R. MABEE. 169
Parenthood; and Karezza: ALICE B. STOCKHAM 170
Aboard the American Duchess: GEORGE L. MYERS 170

RECENT MEDICAMENTS.

Holocain 151
Nosophen 156
Protonuclein 155, 164
Stypticin 164

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CONTENTS.

PAGE

ORIGINAL ARTICLES.

Treatment of Delirium Tremens and Alcoholic Excitement. By CHAS. G. STOCKTON, M.D. 171
Conservative Treatment of Tubercular Joints, with Report of a Case. By J. C. MURPHY, M.D. . 174
Malt Coffee (or Malt Infusion) as an Infant Food. By M. R. MORDEN, M.D. 176
Aspirin, The New Antirheumatic, By Dr. E. ROBLIG 177
Progress in Medical Science: *Ophthalmology*. By R. H. SATTERLY, M.D. 182

SELECTED.

The Use of Calomel in Diphtheria. By T. D. COLEMAN, M.D.. 181
The Uses and Dangers of Atropin in the Treatment of Diseases of the Eye. By EDWARD S. LAUDER, M.D. 183

EDITORIAL.

Moisture in Living-Rooms..... 184
Specialties 185

PAGE

Editorial Notes: Vaginal Suppositories—Irrational Polypharmacy—A Belated Correction... 185

CURRENT LITERATURE.

Mercurol in Infectious Diseases. 174
The Local Use of Formalin in the Treatment of Atrophic Rhinitis, etc. 180
Antipyrin with Salicylates..... 181
Chloretone 186
The Neuroses of the Menopause Caused by Intestinal Fermentation..... 186
The Dose of Antitoxin 187
Saccharin Injurious 187
Suprarenal Extract in Rhachitis . 187
Treatment of Rickets..... 188
Gastric Juice..... 189
The New Substitute for Sodium Salicylate..... 189
Cacodylic Acid in Anemia..... 189
Treatment of Senile Bronchitis .. 191
PRESCRIPTIONS:
For Malaise and Anemia in Syphilis 175
In Sporadic Dysentery..... 177
For Blepharitis Marginalis 182
Orthoform Spray 185

PAGE

BOOK NOTICES.

International Clinics, Jan., 1900.. 191
Modern Treatment of Wounds: JOHN E. SUMMERS, Jr. 191
What a Young Husband Ought to Know: S. STALL 191
Digest of External Therapeutics: E. G. RANKIN 192
Botanical Materia Medica and Pharmacology: S. H. AURAND. 192
Hemorrhoids and Other Non-Malignant Rectal Diseases: W. P. AGNEW..... 192
Laboratory Manual of Physiological Chemistry: E. W. ROCKWELL 192

RECENT MEDICAMENTS.

Acid Cacodylic..... 189
Aspirin..... 177, 189
Beta-eucain..... 182
Chloretone..... 186
Cocillana 191
Diphtheria Antitoxin 187
Formalin 180
Mercurol 174
Orthoform 185
Saccharin 187
Salipyrin 181

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A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS,

RELATING TO THE CLINICAL APPLICATION OF DRUGS.

EDITED BY A. L. BENEDICT, M.D.

ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

CONTENTS.

PAGE

LEADING ARTICLES.

Digitalis and its Aids in Chronic Cardiac Disease. By J. B. McGEE, M.D. 193
Quinsy in Children. By ADOLPH O. PFINGST, M.D. 196
Modern Pathology in Diseases of Digestion. By H. D'ARCY POWER, M.D. 198
Desiccated Suprarenal Capsule in Acute Coryza. By F. H. MILLENER, M.D. 199
Euphthalmin. By ALBERT B. HALE, M.D. 201

EDITORIAL.

The Metric System Again 204
A Splendid Programme 205

THERAPEUTIC BRIEFS.

Aluminium chlorid.—Silver Nitrate—Mercury by Cataphoresis—Wax to Stop Hemorrhage—Less Salt for Epileptics 206
Pilocarpine—Mercury Inhalation—Alcohol Compresses—Sodium Cinnamate—Botanical Drugs Grown Around Philadelphia—Desiccated Epithelium—Esophageal Stricture—Splenic Extract in Typhoid 207

CURRENT LITERATURE.

The Treatment of Tuberculosis .. 196
Papain and Bismuth 203
Symposium on Tuberculosis 208
The Home Treatment of Consumption 209
Treatment of Consumption 209
Symposium on Suprarenal Extract 209
Suprarenal Extract in Surgery of the Ear, Nose and Throat 210
Iron in Heart Disease 210
Heroin for Coughs 211
Effect of Codeine on Coughs 211
Measles and its Treatment 211
Deafness Due to Mumps 211
Apomorphine as a Hypnotic 212
Hyoscine Hydrobromate in Chorea 212
Santonin in the Treatment of Epilepsy 212

PAGE

BOOK NOTICES.

Atlas of Internal Medicine and Clinical Diagnosis: CHR. JAKOB. 213
A Text-book of Obstetrics: BARTON COOKE HIRST 213
Recollections of a Rebel Surgeon: F. E. DANIEL 213
Injuries to the Eye in their Medico-legal Aspect: S. BAUDRY ... 214
Nervous and Mental Diseases: CHARLES S. POTTS 214
The Iris: University of Buffalo ... 214

RECENT MEDICAMENTS.

Diuretin 195
Eucain 201, 207
Euphthalmin 201
Europhen 196
Heroin 211
Holocain 201
Lactophenin 211
Nirvanin 203
Phenacetin 211
Sidonal 203
Sodium Cacodylate 203
Sodium Eosinate 203
Tuberculin 208

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CONTENTS.

PAGE

LEADING ARTICLES.

Sugar, as Such, in the Dietary of Dyspeptics. By W. G. MORGAN, M.D. 215

SELECTED.

The Occurrence of Mould in the Stomach and its Probable Significance. By MAX EINHORN, M. D. 221

Management of Acute Rheumatism in Children. By LOUIS STARR, M.D. 225

EDITORIAL.

Dietetic Hints with Special Reference to Bread-Stuffs 226

The Pharmacopoeial Convention 227

PAGE

CURRENT LITERATURE.

Ferratin in Neurasthenia 220

Treatment of Constipation in Children 225

Comparative Drug Values in Treating Whooping Cough 228

Treatment of Simple Appendicitis 229

Croupous Pneumonia in Children 230

Treatment of Pneumonia 230

Creosotal and Duotal 231

Antiseptic Inhalations in Pulmonary Tuberculosis 232

Cautions in Pediatric Practice ... 232

Prevention, Management and Early Diagnosis of Scarlet Fever 232

Urotropin 233

Internal Use of Formalin 233

Antitoxin and Carbolic Acid in Tetanus 234

PAGE

BOOK NOTICES.

International Medical Annual ... 235

The Abdominal Brain: BYRON ROBINSON 235

Imperative Surgery: HOWARD LILIENTHAL 235

The Anatomy of the Brain: R. H. WHITEHEAD 236

Transactions of the Mississippi Valley Med. Association, 1899 . 236

RECENT MEDICAMENTS.

Antipyrin 225, 229

Bromoform 229

Creosotal 231

Duotal 231

Euphthalmin 224

Ferratin 220

Formalin 233

Phenacetin 225

Urotropin 233, 234

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CONTENTS.

PAGE

ORIGINAL ARTICLES.

Sugar, as Such, in the Dietary of Dyspeptics. By W. G. MORGAN, M.D. (Concluded)..... 237
Ferratin: its Absorption in the Digestive Tract. By Prof. PIO MARFORI..... 245

SELECTED.

The Prognosis and Treatment of Gastric Ulcer. By BOARDMAN REED, M. D..... 248
The Treatment of Follicular and Suppurative Amygdalitis and the Angina of Scarlet Fever by the Injection of a Solution of Carbolic Acid. By H. JUDSON LIPES, M. D..... 252

PAGE

EDITORIAL.

The Section of Materia Medica of the A. M. A..... 254
Editorial Notes 254

CURRENT LITERATURE.

Why is Sugar Injurious? 244
Distilled Water..... 253
Nausea in Intestinal Obstruction 255
Tobacco 255
Follicular Tonsillitis..... 255
Aconite Liniment Poisoning..... 256
Conditions of Terror in Children 256

BOOK NOTICES.

The Year-book of the Nose, Throat and Ear: G. P. HEAD and ALBERT H. ANDREWS 257

PAGE

Christian Science: WILLIAM A. PURRINGTON..... 257

RECENT MEDICAMENTS.

The "flood of new remedies".... 258
Cephalin 258
Chlorosonin 258
Creosotal 258
Ferratin 245
Gasterin 258
Heroin 258
Orexine Tannate..... 255
Protargol 255
Sapodermin 258
Sapolan 258
Somatose..... 249

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Leading Articles.

PHARMACOLOGICAL STUDIES OF ASPIRIN.

(ACETYLSALICYLIC ACID.)

By Professor Dr. H. DRESER.

In many morbid conditions which are the effect of colds the use of salicylate of soda would be much more popular were it not for the repugnance excited by its disagreeable, sweetish taste which cannot be well covered. Under these circumstances, pharmacological chemistry might perhaps produce a synthetic preparation which obviates the unpleasant phenomena in the primæ viæ, to which, aside from its offensive taste, disturbances of the stomach must be added. After reabsorption the effective salicylic acid must be liberated as rapidly as possible from the new product.

If we compare the taste of solutions of benzoate, salicylate and orthomethoxybenzoate of sodium, it will be found that the repugnant sweetish taste is caused by the free phenolhydroxyl of salicylic acid. The valuable medicinal effect of salicylic acid is, however, entirely lost by the substitution of methyl for phenolhydroxyl, since the orthomethoxybenzoate of sodium is entirely devoid of any antiseptic and antirheumatic effect. The combination of such methoxy groups is chemically so firm that even in the organism the decomposition and regeneration of salicylic acid is not possible. Of course, any salicylate preparation possesses medicinal value only if it is decomposed in the blood as soon as possible, with the liberation of salicylic acid. Much more favorable results are obtained by substituting the acidyl group instead of the alkyl group for the phenolhydrogen. In the presence of alkalies, acidyl salicylic acids are far more readily decomposed, while the offensive sweetish taste of salicylic acid is no longer present. The disinfectant power of such acidyl salicylates as exhibited in the fermentation of yeast is much attenuated. Indeed, it might be expected that these salts would act in the same manner as the benzoate or the orthomethoxybenzoate of sodium, one per cent. of which when added to a ten per cent. solution of cane sugar sometimes even accelerates yeast fermentation as measured by the quantity of generated carbonic acid. Probably, the sodium in the above named salts has this favorable action upon the fermentation. If, notwithstanding, in the acetyl salicylate of sodium or in aspirin-sodium, a slight disinfectant power (normal = 126 c.c. CO_2, aspirin-sodium = 88 c.c., sodium salicylate = 37 c.c.) was manifested, we are perhaps justified in assuming a slight splitting-up of aspirin even in yeast fermentation, during which the reaction is constantly acid through evolution of carbonic acid.

Much more promptly than in yeast fermentation aspirin sodium acts in lactic acid fermentation due to the bacterium coli, the whey being neutralized with bicarbonate of sodium (0.66%) up to the degree of alkalinity of the intestinal juice. While the quantity of gas developed in the normal experiments amounted to 67.1 c.c., the amount generated after addition of 1% sodium salicylate was only 5.2 c.c., and on addition of 1.25% aspirin-sodium (equimolecular) likewise only 5.3 c.c. The splitting-off of the acetyl group obviously

takes place quite completely under the conditions of the coli fermentations. The chemical reaction of the medium in which aspirin is dissolved exerts marked influence upon the rapidity of decomposition of the latter. In a more primitive, qualitative manner this may be controlled through the appearance and increase of intensity of the iron chloride reaction carried out in solutions of aspirin with 0.2% HCl (strength of hydrochloric acid in the stomach) and of aspirin-sodium in 1% soda solution (corresponding to the degrees of alkalinity of the intestinal juice). In a mixture consisting of 1.0 gm. aspirin, 10 c.c. alcohol; diluted up to 100 c.c. with distilled water, and in the presence of 0.2% of HCl, a distinct salicylic acid reaction could not be obtained with iron chloride after 60 minutes at 37° C., and only after three hours could that reaction be observed.

The solution of 1.0 gm. aspirin in 5 c.c. alcohol is titrated with soda lye until a red color appears with phenolphtalein, and is then made up to 100 c.c. with 1% soda solution. Already after ten minutes the solution gave the iron chloride reaction, although allowed to stand only at temperature of the room (about 18° C.). For carrying out the test for liberated salicylic acid a sample was first neutralized and then mixed with an excess of iron chloride; the salicylic acid present in the solution does not give a violet color with an excess of the iron salt until after precipitation of all the aspirin in form of an almost insoluble iron salt.

It was interesting to follow up the decomposition of aspirin in acid and alkaline solutions according to the methods of physical chemistry. Under these circumstances the difference between acid and alkaline decomposition gives especially striking figures.

In case of decomposition by acids, the quantity of the aspirin to be decomposed is only changed; the longer the duration of the process the greater the decrease in the number of aspirin molecules; the number of the hydrochloric acid molecules effecting the decomposition remains unchanged.

In the decomposition of aspirin by caustic soda, the quantity of the aspirin molecules and that of the alkali molecules which causes the decomposition, diminishes *pari passu*, because the acetic acid liberated from aspirin, neutralizes an equivalent quantity of soda.

If we designate in the acid decomposition of aspirin the number of molecules to be decomposed which are present at the commencement of the reaction with the letter "a," and the rapidity of the disintegration with an acidity of 0.2% HCl at a temperature of 37° C. with "k," then the chemical quantities decomposed at certain periods of time are proportional to the quantity of aspirin which has not yet been decomposed. If after a time "t" the quantity "x" has been decomposed, then "a — x" still remains to be split-up. At the commencement of the reaction the process takes place with the rapidity "k×a"; therefore, during the very small interval "dt" the very small quantity "$dx = k \cdot a \cdot dt$" is decomposed. At the end of the period "t" during which the quantity "x" has been decomposed, there is only decomposed after the later very brief period "dt": $dx = k\,(a - x)\,dt$. From this formula arises the differential equation $\frac{dx}{a - x} = k \cdot dt$, which is integrated by placing $a - x = u$, that is, $dx = du$; $kt = \int -\frac{du}{u} = \ln u + C$ or $kt = \ln \frac{1}{a - x} + C$. The value of the integration constant C is found by considering that at the beginning of the reaction when $t = 0$, x is also $= 0$; therefore, at the commencement $k \cdot t = 0 = \ln \frac{1}{a} + C$, or $C = \ln \frac{1}{a} = \ln a$. If the thus determined C. value is inserted into the above equation, then $kt = -\ln (a - x) + \ln a$, or $k = \frac{\ln(a) - \ln(a - x)}{t}$

In our case the quantity of aspirin to be decomposed at the commencement of the

reaction is known in this equation through titration. Inasmuch as after complete decomposition a molecule of acetic acid has been newly formed from a molecule of aspirin, the titer of the solution must actually have been doubled. In order to determine how much aspirin has not been decomposed, we must substract the titer increase "x" after the time "t" from the expected increase "a" of the final titer. The initial titer consists before the beginning of the reaction of two factors which are to be added; the one which is unchangeable is derived from the hydrochloric acid which is used as a decomposition agent; the other, which finally doubles, is the still undecomposed aspirin; "t" is the number of minutes which have elapsed after the mixture of the fluids, that is, from the beginning of the reaction to the time of the different titrations.

ILLUSTRATION: The hydrochloric acid added to 100 c.c. is neutralized by means of 27.8 c.c. caustic soda; 1 gm. aspirin = 23.8 c.c. NaOH; 25 c.c. of the prepared mixture required before beginning $\frac{29.8 + 23.8}{4} = 12.9$ c.c.; as after 60 minutes the titer was not decidedly increased, the next 25 c.c. were not titrated until after three and one half hours = 210 minutes. At this time the titer amounted to 13.3 c.c.; x = 0.4 c.c. From this it appears that a being = 5.95, $k = \frac{\ln 5.95 - \ln 5.55}{210} = \frac{2.3026}{210} \lg \frac{5.95}{5.55} = 0.0003314$.

The alkaline decomposition takes place far more rapidly. For determining the rapidity constant "K," the above formula is not available, because the aspirin does not only diminish during decomposition, but the acetic acid formed during the reaction renders ineffective an equivalent quantity of caustic soda by neutralization. The experiment for computing k is comparatively simple if it is so arranged that at the end of the reaction the formed acetic acid is exactly neutralized by the caustic soda. This can be readily arranged if one gm. of aspirin is dissolved in some alcohol with addition of a drop of phenolphtalein solution and is neutralized out of a burette with caustic soda; the same quantity of caustic soda is allowed to run in about 60 c.c. distilled water. The reaction time "t" begins at the moment at which both fluids, the neutralized alcoholic solution of aspirin and the alkaline water are mixed; the quantity is then made up to 100 c.c. by rapidly adding distilled water, well mixed, and titrated back with acid in intervals of two minutes.

In the analogous saponification of ethylacetate, Warder already determined the equation suitable for our case. If after "t" minutes the quantity "x" aspirin is split up, the undecomposed quantity is a — x, and the caustic soda has likewise fallen from its original amount "a" to "a — x." The substances react upon another with the same rapidity of decomposition "k," but in correspondingly smaller quantities. The aspirin residue "a — x" is no longer attacked by the original quantity of soda "a," but only by the "a — x." Therefore, the quantity "dx" converted in the very brief period "dt" is $dx = k\,(a - x)\,.\,(a - x)\,dt$; $kdt = \frac{dx}{(a-x)^2}$; $k.t = \int \frac{dx}{(a-x)^2}$. If we assume $a - x = u$, then $dx = -du$ and $k\,.\,t = \int \frac{-du}{u^2} = u - 1 + C = \frac{1}{a - x} + C$. When t and x are both 0, then $C = -\frac{1}{a}$; hence $k\,.\,t = \frac{1}{a - x} - \frac{1}{a} = \frac{x}{(a - x)\,.\,a}$; $k = \frac{x}{(a - x)\,at}$.

ILLUSTRATION: 1 gm. aspirin is neutralized with NaOH; the used caustic soda is neutralized by 52 c.c. of hydrochloric acid of known strength. Inasmuch as for every titration 25 c.c. of the prepared mixture are used, a = 13 c.c. After two minutes the quantity required for neutralization amounted to only 7.85 c.c. = a — x; therefore x = 5.15 c.c. After four minutes a — x = 5.65 and x = 7.35 c.c. From the experiment after two minutes may be computed that $k = \frac{5.15}{7.85\,.\,13.2} = 0.0252$; from the experiment after four minutes $k = \frac{7.35}{5.65\,.\,13.4} = 0.0250$.

In the same manner in an experiment with equimolecular quantities of propionyl salicylic acid ("prospirin") it was found that k = 0.018; therefore it possesses only three-fourths of the rapidity of decomposition of aspirin.

Comparative experiments for determining the decomposition rapidity of benzoylsalicylic acid could not be carried out owing to the fact that its sodium salt is difficult of solution in water.

While in the acid decomposition at bodily temperature k = 0.00033 in the alkali decomposition at the temperature of the room k = 0.025. During 210 minutes in the acid decomposition only 0.0672 gm. aspirin were decomposed; but after two minutes in the alkali decomposition already 0.396 gm. aspirin. The amount of aspirin split up in two minutes by acids is computed to be 0 0007 gm. according to the formula for k; it is therefore only $^1/_{566}$ part of the quantity decomposed by alkalies. The experiment to compare the rapidity of decomposition of salol (salicylic acid in which carboxyl and phenol have been combined to form the ester) with aspirin under analogous conditions could not be carried out, because salol in spite of addition of alcohol was in part precipitated. Experiments made with the same excess of soda were not directly comparable quantitively, but it may be mentioned that after five hours' reaction a smaller quantity of salol was decomposed than of aspirin in two minutes. In view of such unfavorable conditions of decomposition it is readily conceivable that part of the salol is evacuated unabsorbed with intestinal contents, and may even form concretions "salol intestinal calculi," (Lewin, Nebenwirkungen der Arzneimittel, 3. Aufl., S. 454.)

Inasmuch as the alkalinity of the blood and of the tissue fluids is produced solely by alkaline carbonates, it would have been of importance to measure k also under such conditions. Unfortunately, this was not practical owing to the lack of an appropriate indicator which would be sufficiently sensitive to enable us to differentiate between the carbonic acid acidity of the formed sodium bicarbonate and that of acetic acid and salicylic acid. In the decomposition by soda we must resort to the qualitative tests with iron chloride after previous neutralization. I compared in this manner the decomposition of the sodium salts of butyryl and valerylsalicylic acid with that of aspirin, and found that after about thirty minutes at 37° C. aspirin seemed to be completely split-up, while the other acids after standing for several hours still contained unchanged acid, which, after neutralization, could be precipitated by iron chloride. With the butyrylsalicylic acid the odor of the liberated butyric acid made itself so offensive after neutralization that it would be impossible to utilize this preparation medicinally. Besides in the latter two combinations the salicylic acid which is the valuable medicinal principle would be developed much too slowly for therapeutic purposes.

The ready decomposition of aspirin even in weakly alkaline media is in accord with its behavior in the metabolism. Within 22 minutes after ingestion 1 gm. aspirin-sodium I obtained the salicylic acid reaction in my urine by means of iron chloride. Hence, the acetyl group, at least, in part, had been already split off. Whether still unchanged acetyl salicylic acid had passed into the urine was determined in the following manner: The urine was completely precipitated with iron chloride, and the precipitate obtained with iron chloride from the phosphates in the urine was filtered and washed with a dilute iron chloride solution until the filtrate no longer showed a violet color. The acetyl salicylic acid analogous to benzoic and hippuric acid is precipitated from its alkaline salts with iron chloride as a light cream colored precipitate. The limit of precipitation is reached in a dilution of about 1 : 400. The yellowish-brown iron precipitate from the urine was boiled with caustic soda, which would have converted any aspirin precipitated along into salicylic acid. In the alkaline filtrate after neutralization, the regenerated salicylic acid should have been tractable. As this, however, was never the case the

quantity of aspirin passed into the urine could, at the most, not have been sufficiently large to be precipitated by the ironoxide salt. Even if the aspirin had paired with glycocoll there would have been reason to expect that analogous to hippuric acid it would be present in the iron precipitate of the urine, and by boiling the alkaline liquid the acetyl group would have been split off the phenol-hydroxyl, so that the violet coloration with the iron chloride would again have shown itself. As could be concluded from the disappearance of the salicylic reaction from my urine the elimination was completed usually at the end of 12 hours after administration of aspirin.

A not inconsiderable portion of the ingested aspirin is eliminated after its absorption and decomposition in combination with nitrogen either as salicyluric acid or the complicated combination described by Lesnik. (*Archiv f. Path. und Pharm.*, Bd. 24.) A comparison of the N content of acetic ether extracts of urine before and after ingestion of aspirin showed rapid increase from 4.48 mgm. N pro 300 c.c. urine to 21.1 mgm. N, which could only be due to the nitrogenous metabolic product of salicylic acid.

The well-known influence of salicylic acid upon the metabolism consisting in an increased excretion of uric acid in 24 hours is also distinctly manifested in aspirin. While under the same conditions of nutrition the quantity of uric acid excreted during the 24 hours preceding the administration of aspirin was 0.875 gm., the elimination during the following two days in which 2.2 gm. were given daily amounted to 1.084 gm. of uric acid on the first and 1.125 gm. on the second day.

Any pronounced influence upon the body temperature in healthy rabbits was not observed either after administration of aspirin-sodium nor after that of sodium salicylate.

Experiments regarding the condition of the vessels of frogs recently killed and whose spinal cord had been destroyed, were made by means of artificial transfusion. These showed that salicylate of sodium and its acetyl combination acted in the same manner in that both failed to cause narrowing of the blood vessels, but rather a slight tendency to dilatation. Much more interesting was the behavior of both substances upon the isolated hearts of frogs in the so-called Williams' frog heart apparatus. I measured the changes of pulse volume (P) with various weights (H) starting from .0 cm. By multiplication of the different (P) values with the corresponding (H) values, we obtain the amount of work accomplished by the heart at certain weights, $A = H \times P$. In my essay on "Cardiac Action and Cardiac Poisons" (*Arch. f. exp. Path. u. Phar.*, Bd. 24) I have demonstrated by means of computation and experiments that the curve of the heart action shows its maximum in the center of that weight level which corresponds to the absolute power of the cardiac muscle. In order to avoid laceration and overtension of the cardiac muscles I have not determined the absolute power directly, but obtained it in a more correct and simple manner by doubling that weight which gave the maximum working power.

Normal Observations. Weight 25 cm.

H	P (pulse volume)	A (cardiac work = H × P)
0 cm.	11.0	0
10 cm.	8.8	88
20 cm.	7.8	154
30 cm.	5.0	150

Observation after addition of 0.2% sodium salicylate to the transfused fluid.

H	P	A
0 cm.	7.7	0
10 cm.	6.1	61
20 cm.	4.4	88
25 cm.	3.4	85
30 cm.	2.5	75

The working capacity of the heart is restricted by sodium salicylate, especially through reduction of the volume of the pulse. The absolute power computed from the work maximum remained unchanged.

If we compare herewith in an analogous experiment the influence of aspirin-sodium in equimolecular (0.25%) solution.

Normal Observations. Weight 25 cm.

H	P	A = H × P
0 cm.	9.1	0
10 cm.	7.5	75
20 cm.	5.4	108
25 cm.	4.0	100
30 cm.	3.1	93

Transfusion with 0.25% aspirin-sodium.

H	P	A = H × P
0 cm.	10.1	0
10 cm.	8.2	82
20 cm.	6.0	120
25 cm.	4.8	120
30 cm.	3.1	93

In marked contrast with sodium salicylate the working capacity of the heart is increased by aspirin by an increase of the pulse volume, while the absolute power is not essentially influenced, but somewhat augmented as appears from the fact that the working maximum 120 at 25 cm. weight remains the same as at 20 cm. weight. Hence, $22.5 \times 2 = 45$ cm. blood column will correspond with the absolute power, while normally it is only 40 cm.

Comparative experiments with sodium salicylate and aspirin-sodium in cold-blooded animals carried out in equimolecular proportions showed distinctly that aspirin is much less poisonous than salicylic acid. In a two per cent. solution of salicylate of sodium a small fish was so quickly paralyzed that after four minutes it fell upon its side; in the equivalent solution of 2.52 per cent. aspirin-sodium it required twenty minutes before the same state of poisoning was exhibited.

Still more noteworthy was the difference in time in the effect on frogs. In one of two freshly caught frogs of the same weight to whom 0.05 sodium salicylate had been given, the time until the occurrence of death was three hours and five minutes; in the other which had received 0.063 acetyl salicylate of sodium, no essential change was perceptible after four hours. It began, however, after five hours, at first with slowing of the respiration. After six and one-half hours the respiration had almost entirely ceased, but the circulation in the web was still active. After seven hours and twenty minutes the frog no longer gave any reaction. We see, therefore, that the development of the poisonous effects of aspirin is four hours slower, but finally the drug kills as certainly as the equimolecular lethal dose of the salicylate. Inasmuch as the acetyl group owing to the lower bodily temperature of cold-blooded animals splits up more slowly, we observe this relatively long stage of apparent immunity. For acetylsalicylic acid is itself no protoplasma nor nerve poison such as salicylic acid, as is already shown by its influence upon yeast compared with salicylate of sodium. Although in warm-blooded animals the rapidity of decomposition of aspirin is, of course, greater, yet the gradual development of the salicylic acid from aspirin must be regarded as a sort of protection against sudden flooding of the patient with the directly active salicylic acid, such as manifests itself after administration of the ordinary sodium salicylate in the form of tinnitus and diminution of the hearing in persons with an idiosyncrasy against the drug. As I have observed on several occasions, it requires with aspirin three quarters to one hour, and with sodium salicylate only 20 minutes until the febrile discomfort and the feeling of fullness in the head in coryza begins to subside.

The local influence of salicylic acid upon the gastric mucous membrane consists in irritation and slight caustic action. In order to compare aspirin in this respect with salicylic acid, I found the transparent membrane of the fins of small fish very suitable. These differences are manifested over the entire surface of the body upon immersion of small fishes in these solutions. But the conditions under which such an experiment is carried out are unnecessarily complicated by the disturbing caustic effects upon the gills and by the general poisonous phenomena due to absorption through the gills. Hence, I found it preferable to wrap up the fish in a narrow wet linen bandage, and to practice artificial respiration by introducing a rubber tube into the mouth, and irrigat-

ing the gills with fresh water by means of a siphon, and then immersing only the caudal fins hanging freely over a board in dishes containing the solutions to be compared. In this experiment a difference showed itself even in less than a minute, inasmuch as the fin suspended in a solution of 0.3 salicylic acid in 400 aq. dest. had become much more opaque than that placed in equimolecular concentration of 0.392 aspirin in 400 distilled water.

As the alkaline salts of both acids do not exercise such a local effect, I regarded it as possible that this caustic action might be due to the influence of acid-ions. When, however, I employed a dilute solution of hydrochloric acid equivalent to that of the salicylic acid, the fin remained transparent and uncauterized at a time when the fin of a fish treated with salicylic acid had become opaque in consequence of a whitish deposit. Although hydrochloric acid is much more strongly disassociated than salicylic acid whose constant of affinity k is only 0.102 according to Oswald's measurements, nevertheless, it does not produce this specific cauterization; hence, the latter is not attributable to the H-ions of salicylic acid. Inasmuch as further the disassociation of acids is at its maximum in their sodium salts, and as sodium salicylate is devoid of any caustic effects, therefore they can also not be attributable to the salicylic-ions $C_6H_4<^{COO}_{OH}$, but presumably to that portion of salicylic acid which is not disassociated. One reason of the weaker caustic effect of acetylsalicylic acid is probably that the hydrogen atom of its carboxyl group in consequence of the negative influence of the acetyl group in the neighboring ortho position, which position, as is well-known, is most favorable for this effect, is more strongly stored with electricity, and more liable to disassociate than in salicylic acid. A physical chemical measurement of the affinity constant k for acetylsalicylic acid would give the desired information.

The other very important chemical difference, namely, that in salicylic acid a free phenolhydroxyl is present, while in aspirin it is substituted by the acetyl group, is, at least, not directly the cause, for a solution of guaiacol in equimolecular proportions with those of the cauterizing salicylic acid was entirely devoid of any local action. Another argument against the effect of the phenolhydroxyl is that benzoic acid without a phenolhydroxyl acts if anything more intensely and rapidly than salicylic acid. The affinity constant k of benzoic acid is, according to Oswald, 0.060, that of salicylic acid 0.102.

If, therefore, in conclusion, we review the essential pharmacological points with reference to aspirin, it may be maintained that before absorption this remedy is distinguished from sodium salicylate by its agreeable acidulous taste. According to the above experiments it is much less devoid of irritating effects upon the mucous membranes of the stomach than salicylic acid. The slight decomposition of aspirin in the hydrochloric acid of the stomach (0.2%) is also of beneficial influence. After absorption, aspirin distinguishes itself from sodium salicylate, in that the effects upon the nervous system, even in warm-blooded animals, are not developed as rapidly as with the latter remedy, but only develop after the gradual decomposition of aspirin through the splitting off of its acetyl group through the alkaline reaction of the blood and tissues, so favorable for this process. Especially noteworthy appears to me the action of aspirin upon the heart. In equimolecular concentration the working capacity of the heart was reduced by sodium salicylate but increased by aspirin sodium.

CHILDREN'S EMETIC.—This is prescribed by Prof. Baginsky, according to the *Med. Record*:

℞ Pulv. ipecacuan gr. viiss
Antimonii et potassii lactati..gr. ⅛
Oxymel scillae..... ʒ iiss
Aq. destill. q. s. ad ʒ i
M. S.: One teaspoonful every ten minutes.

*ANTIPYRETICS IN CHILDREN.**

By J. B. McGee, M.D.,
Attending Physician to St. Joseph's Orphan Asylum.

The extent to which antipyretics are used in the diseases of childhood will doubtless vary with the personal estimate of the danger of the febrile factor. While the true source of fever is still in question, and without theorizing as to its method of production, it is sufficient to say that children as a rule respond readily to its stimulus, and that with them a high temperature is quite frequently dependent on a comparatively trifling cause. The simplest form of antipyresis would here seem best, in a general way either the direct application of cold in some form, or the use of drugs possessing antifebrile power. The essence of success, too, is to obtain the reduction with as little risk and interference with normal function as possible, as the simple presence of pyrexia in childhood rarely requires extreme measures for its relief. The part played by antipyretics is simply to remove certain symptoms indicative of danger; this is their legitimate field, and for this they should be reserved as a rule. A moderate degree of pyrexia is regarded as practically harmless, perhaps even conservative in character and only when it becomes excessive does it require interference or control. It is an accepted fact, too, that antipyresis is no specific for fever; that it does not specially influence its course when of a continued character, but it is of value when a series of symptoms that may induce serious results arise, whose rapid removal is imperative. Children, we know, do not bear depression well and any antipyretic tending to produce it should be avoided. In fact, in continued fevers at least, aiding elimination is probably fully as important a factor in treatment as the reduction of temperature. The cold bath probably represents the preference of the profession, but while no one questions the marked benefit following its use in suitable or selected cases, its injudicious use may prove injurious.

There are evident objections to its routine employment in childhood as there are also to the similar use of antifebrile drugs, and while no other single agent is probably so universally useful in adults, its use in children should be somewhat modified, milder methods and a higher temperature generally yielding equally satisfactory results. Personally I rarely employ it, preferring cool and warm sponging or the use of the warm bath. These in the majority of cases at least are also sufficient to control the delirium and nervous symptoms which are especially evident in the febrile conditions of childhood. We are apt to forget that the warm bath by its derivation of blood to the surface and consequent evaporation exerts quite an appreciable antithermic action, and if aided by massage this effect is enhanced, as surface friction has been found to quite decidedly increase heat loss.

In the symptomatic and ephemeral febrile affections the simple diaphoretics or vascular sedatives, especially aconite, are still popular, although perhaps less used since the introduction of the synthetic remedies. The peculiar power which minute doses of aconite posses of controlling pyrexia and pulse-rate appear out of proportion to the dose employed. Children are especially susceptible to its action, and, while this may be difficult to explain, its power is unquestioned and it still retains a favorite place among the antifebrile remedies in all except continued fevers or asthenic cases. Its sedative and diaphoretic effects are rather evanescent and the minute doses frequently given is preferable to the larger one at longer intervals. While the tincture is generally employed the alkaloid is occasionally used, although its extreme active principle, on which it almost exclusively depends for its antipyretic power, as benzaconin, possesses it but to a slight degree, and is said

* From the *Cleveland Journal of Medicine*, July, 1899.

to rather strengthen ventricular contraction. The amorphous aconitin of commerce is usually a combination of these three principles in varying proportions.

Veratrum viride is not so generally employed with children as aconite, its tendency to produce nausea and vasomotor depression limiting its use. The choice of antipyretics will be influenced to some extent by the character and cause of the fever for which they are to be given; when this is secondary to sepsis the coal-tar derivatives appear to be of little value, while alcohol is here probably one of our most efficient antifebrile agents, and its power is presumably enhanced by its antiseptic action. While this effect is doubted by some, Binz long since pointed out that it appreciably lowered febrile temperature and clinical results appear to bear out the assertion, and it doubtless acts not only by increasing heat-radiation but also by aiding toxic elimination through diuresis. Quinin as an antipyretic is limited almost exclusively to malarial cases, but it is a clinical fact that children bear quite large doses remarkably well.

The salicylic compounds, as in adults, are mainly restricted to the fever of articular rheumatism, but even here, and this is especially true of salol, should be carefully given if nephritis is present.

As regards the synthetic compounds they simply relieve the pyrexia, and exert no effect on its cause or course as quinin and the salicylates are assured to do when these are indicated. We have as yet no ideal antipyretic drug, as no single agent has thus far proved entirely satisfactory. Drawbacks attend the use of all, but by careful dosage and attention they are reduced to a minimum. The relative merits and demerits of this class have been much discussed, and while perhaps of not equal excellence their resemblance chemically and clinically is quite close. If we endeavor to estimate their comparative value it appears that while they differ but little in antifebrile power, the phenetidin derivatives are probably on the whole safer to employ than the anilids. The great popularity of these products and the readiness of response to their action have perhaps led to their abuse, but I cannot coincide with those who so strongly condemn their administration in pyrexia. The objections to their use are their depressing effects, interference with elimination and toxic action on the blood. If too freely and frequently used these results will probably follow, and while we should expect from agents capable of impressing the system so strongly some element of risk, the detrimental effects recorded are probably due as much to injudicious dosage as inherent toxic power. Carefully given in small doses they are as safe as any other equally effective drug. My personal preference is phenacetin, which appears as devoid of danger as any similar remedy, and I see no reason to discard it for its recent rivals and find no qualities in which they excel. When nervous or cerebral symptoms exist with the pyrexia its sedative power is an additional advantage and incidental disagreeable effects as eruptions and pruritus rarely appear. Lactophenin, its near relative, is without doubt fully as serviceable and safe, and its hypnotic action supplements its antipyretic power. The only objection has been noted by Dr. L. Hahn, who found that occasionally severe iterus followed its use. Kryofin, one of the newer preparations, and I believe also a phenetidin derivative, has similar therapeutic properties, and my own limited experience with it has been quite satisfactory.

The powder is perhaps the best form in which to administer these remedies as the compressed pill or tablet may be but slowly or not at all absorbed. As a rule they are readily taken, the dose is small, and children bear them quite well. In fact, Comby, who strongly advocates the safety and value of antipyrin in these cases, has given doses which seem unnecessary if not unsafe and simply serve to show the tolerance of these compounds in childhood. The only drug applied

locally for its antipyretic action is guaiacol. I have had no experience with it in children but can testify to its power in adults. When rapid reduction of temperature is desired and the bath might be contraindicated or internal remedies disagree it may prove an efficient substitute. I have noted such profuse diaphoresis after its application in adults, that I should hesitate to employ it in childhood unless tentatively and in small amounts.

Assuming typhoid as the type of the continued fevers, we realize that the less drug-treatment is given the better, and the cold bath has the preference as an antithermic agent. While typhoid is relatively rare in infancy, it is fairly frequent in childhood, and as a rule as low a temperature is not required as with adults. Although its therapeutic value is undoubted, the individual case should be considered, and the earlier rather than the later stages appear best adapted to its use. In children, too, typhoid is generally shorter, milder, and shows less tendency to follow a characteristic course, and while the usual complications are seldom so decided, those of a nervous character are apt to be more marked. The shorter duration and the ability of children to bear pyrexia well indicate that it requires less relative attention, and the child's general condition is probably a better index than the temperature alone, although the relief of this when excessive diminishes a possible danger. I rarely employ the cold bath; cool sponging with or without alcohol, rubbing to promote reaction, warm baths and small doses of phenacetin outline the general plan followed. It has appeared to me, too, that when given early, and especially when abdominal symptoms appear, the use of some intestinal antiseptic influences the height of the temperature-curve, not by any direct effect on the specific bacillus but by controlling decomposition and toxin-formation, so perhaps limiting secondary febrile phenomena, and while others may be equally effective, the agents generally given have been the sulphocarbolate of zinc or the guaiacol compounds.

When the course of fever is short, as in pneumonia, the danger from the febrile source is evidently less and the indications for antipyretics are not so apparent. This is mainly true in the lobar form in which the prognosis is generally favorable and the fever rarely causes apprehension; but even in bronchopneumonia the pyrexia itself seldom constitutes a danger and requires but little treatment unless nervous complications appear. The cold bath is advised for infants, the cold pack for older children and the direct application of cold to the chest has many advocates who claim rapid relief of dangerous symptoms under its use. Chapin especially recommends the cold compress to the chest, and formulates the general rule that if during its use the hands and feet become cold or chilly it should be discarded, but if they remain warm it is beneficial and should be continued. Children, however, do not bear extreme cold well, and personally I find the fever incident to this disease amply controlled by diaphoretics, cool sponging, the warm or in some cases even the hot bath, and small doses of phenacetin. When cerebral complications appear cold is applied to the head, but as a rule liitle attention is paid to the temperature should it follow its usual course. Alcohol here judiciously used has an appreciable antipyretic action and children bear it well. It resembles the nitrites to some extent and its dilation of the cutaneous circulation not only favors loss of heat but tends to lessen the congestion in the pulmonary area.

Since the introduction of antitoxin the fever of diphtheria seldom needs especial attention but bathing and alcohol seem to be best adapted to its control. In the exanthemata also it is only when especial exigencies arise that interference is needed, and while many of our best authorities advise the use of the cold bath and pack I must confess to a preference for diaphor-

etics, cool sponging and the warm bath. These with massage generally relieve the temperature and toxemia, while the beneficial influence on the pulse and nervous system is in my opinion equal to that derived from the colder applications. This is especially true in scarlatina, in which if nephritis is present the warm or hot bath is infinitely preferable to the cold. It is perhaps well to recall the fact that during the febrile state certain drugs fail to produce their usual effects to any decided degree. This is chiefly true of digitalis, which Lauder Brunton found to exert no appreciable action on the pulse during high fever, but during defervescence the natural tendency toward slowing of the pulse is intensified by the drug, and serious results may follow its use. It is evident that no single agent can be chosen to fill all the indications for which antipyretics are employed. The present position probably is that as a routine remedy they are rarely required, recognizing the comparatively harmless character of ordinary pyrexia, and should be restricted to those cases in which relief of hyperpyrexia or nervous symptoms is desired. Sponging, warm or cool, the warm bath, the cold bath and compression reserve to meet special indications with diaphoretics and the synthetic compounds carefully used, practically summarize our agents for the control of febrile phenomena in childhood. Here as elsewhere the therapeutist finds that adaption to the special case is essential to successful treatment.

*THE ANTIPERIODIC TREATMENT OF INSANITY.**

By Edward Anderson, M.D., Rockville, Md.

In view of the vast increase in the number of cases of insanity of late years, particularly among the negroes, it behooves us general practitioners, to whom most of the cases are first referred, to see to it that they receive the proper treatment at once.

In my experience, malaria is one of the most common causes of insanity, and when it is the cause the case is amenable to anteperiodic treatment only, but it must be treated vigorously and often for a lengthy period. I now treat all cases of insanity with antiperiodics, and often succeed in curing them when no evidence of malarial poisoning is present.

Some years ago I published an article in the *Medical News* entitled "Insanity Cured With Quinine." In that instance a woman, between seventy and eighty years of age, suddenly became a raving maniac and did not improve in the slightest degree until I put her on large doses of quinine, when she immediately began to improve, and in a short time was well. Had this woman been sent to an asylum, with her family history of two daughters insane, she would probably have remained there to the present time, six years, whereas she has been a useful woman during that period.

A short time since I was called to a very sad case of melancholia in a woman sixty years of age. I found her locked up in a room by herself and moaning as if her heart would break. Her wrists were excoriated where she had been tied to prevent her from destroying herself, which she had frequently attempted to do. There was no rise of temperature in this case and no other evidence of the presence of malaria, yet I put her on heavy doses of quinine, which has caused her malady to take on an intermittent form of a much milder type, and I believe, in time, will effect a perfect cure. I was not called to this case for the purpose of treating it, but merely that I might be able to testify before the jury which was to commit her to an insane asylum.

It is singular how long malarial parasites will sometimes remain in the system without producing symptoms, when suddenly an attack of insanity will supervene which will go on forever, unless antiperidic treatment is instituted. Malaria is also frequently the indirect cause of in-

* From the *Maryland Medical Journal*, April 8, 1899.

sanity producing epilepsy, which generally results in imbecility. A child will have a chill say every other day, but after a while a convulsion will take the place of the chill and, if not properly treated, the case will run into one of epilepsy. After a time, the periodicity is lost, but the remedies remain the same, though they are not often applied.

In treating insane epileptics the coal-tar preparations are to be preferred at first, and quinine and arsenic later on, for they act not only as antiperiodics but antispasmodics as well. I prefer them to the bromides in the treatment of convulsions in children, particularly where there is febrile action present.

A prominent physician of this State, and one whose word I would not for a moment doubt, told me he knew a confirmed epileptic, who had also been an imbecile for many years, completely restored to reason and usefulness after an attack of malarial fever. I asked him if quinine had been used in the case. He said "Yes, freely."

I believe there are many insane persons languishing in institutions who might be released from a condition worse than death by the proper employment of antiperiodics.

*TONSILLITIS OF INFLUENZA.**

By Seth Scott Bishop, B.S., M.D., Chicago,

Professor of Diseases of the Nose, Throat, and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate School, Etc.

In the present epidemic of influenza the throat appears to have participated to a large degree in the disease. The pharynx and larynx have been particularly prone to show inflammatory action, more so than the nasal fossae. One type of the disease which has shown remarkable rapidity and intensity of action is that in which the most virulent force of the affection has been expended upon the tonsils.

Such a typical case is this: The patient was taken suddenly one evening with an intense headache accompanied with an unendurable sense of pressure "as though the head were being squeezed in a vice." She had suffered from the grip before, and recognized at once that she had been seized with another attack. The throat soon became sore, but inspection revealed no sign of inflammation beyond a slight hyperæmia of the tonsils. The muscles of deglutition were painful in the act of swallowing and on pressure. There were sensations of heat and chilliness, backache and weakness. The rise in temperature was inconsiderable at any time.

Treatment was instituted immediately. The patient took to the bed, and was given two drams of sodium phosphate to relax the bowels. These patients often have a uric-acid diathesis, and the alkaline laxative assists in freeing the blood of this irritant. It also aids in correcting fermentative processes that may be going on in the alimentary canal, and it acts as a derivative and depletant of the engorged bloodvessels by causing a copious serous discharge from the bowels. On account of the distressing headache and slight fever 10-grain doses of antipyrin were given. This not only relieves the headache and fever, but it has an especially useful influence over rheumatic conditions of the pharynx and neck muscles. We should not forget that many of our patients are inordinate eaters of meats and sweets, and that the resulting excess of uric acid stored up in the body may be set free at such a time and provoke rheumatic pains and soreness in the throat and muscles of deglutition. In addition to antipyrin, salol and salophen, sodium salicylate is particularly indicated to dissolve the uric acid out of the more alkaline tissues, such as the liver, spleen and joints, and to sweep it out of the body.

In this case the soreness of the throat was altogether out of proportion to the apparent indications of inflammation in the pharynx. We had further to contend with a neurasthenic condition and a very greatly reduced percentage of hæmoglob-

* From the *Medical Fortnightly*.

in. The patient had already been taking citrate of lithia in small doses for lithæmia.

A noteworthy incident was that, although the right side of the throat was not complained of, and the left was very sore and painful during the act of swallowing, thirty-six hours after the first symptom of the attack the right tonsil was a mass of ulcers, while the left gland presented merely a red, shining surface, and did not become ulcerated.

The frequent application of hydrogen dioxide to the ulcerated surface, and the continuation of the general treatment dissipated the attack, so that the patient was restored sufficiently to a sense of well-being to be out of doors on the third day. However, there was a return of the headache after exposure to cold, and fugitive neuralgic pains called for remedies addressed to the nervous system, although there was no further disturbance of the respiratory tract.

In such cases, when the strength is greatly reduced, quinine may be given, providing only that there is no disease of the ears. It should not be forgotten that a rapidly destructive inflammation of the middle ears is often an accompaniment or sequel of the grip, and that quinine and salicylic acid produce hyperæmia of the middle and internal ears, so that they would be contraindicated in such conditions.

You will notice that I have mentioned only one local remedy in speaking of this particular case, but it is often advantageous to apply guaiacol, diluted one-half with glycerin, to the inflamed mucous membrane. This is especially true when the temperature is high. A 4 per cent solution of potassium bromide is also grateful as a gargle or spray to the inflamed throat, and a coarse spray of a 3 per cent solution of camphor-menthol affords relief. Patients derive much comfort from the following formula made into a small tablet: Ammonii chloridi, gr. i; tincturæ opii camphoratæ, syrupi scillæ compositi, syrupi tolutani, āā min. v; extracti glycyrrhizæ, gr. iii. This tablet is allowed to dissolve slowly in the mouth, so as to prolong the contact of the remedies as much as possible with the diseased surface.

*TO HEAL VACCINATION SORES.**

By A. K. Bond, M.D., of Baltimore, Md.

It is not sufficient that we meet the anti-vaccination movement with ridicule, nor even with a demonstration of the remarkable control which vaccination exercises over the extension and the intensity of smallpox; we must meet it also by self-questioning as to whether we are conducting our vaccinations in such a manner as to inflict upon our patients the least suffering, the least exposure to other infections, the least disfigurement of body. If we have so conducted our protective work, we may, with confidence of success, meet any assaults which ignorance or timidity or a mercenary desire for exploitation of crank theories may bring against this useful preventive measure. Time (for all crank movements, like growths of malignant bacteria, tend to self-limitation) with a patient and gentle instruction of the public in the truth of the controversy will do the rest.

If the glycerinated virus proves satisfactory in its potency, and its ability to keep its strength, as numerous competent observers claim that it does, the danger of accidental infections of the original inoculation scratch will be greatly reduced, especially if the scratching instrument is carefully disinfected by red heat or pure carbolic acid, if the skin is previously washed, if the virus is conscientiously made, if the site of the vaccination is dressed aseptically until it is restored to its natural condition.

Practically, the physician has to dress many suppuration sores of vaccinations made by himself or by others. The statement that glycerinated virus does not make protracted sores is denied by reliable authorities, and within a few days the writer was asked to dress a suppurating sore about three-fourths of an inch in diameter which the intelligent lady who bore it steadfastly alleged to have re-

* From the *Maryland Medical Journal.*

sulted from a vaccination done a month ago with liquid virus blown upon the scratched arm out of a little tube.

The belief prevails in the community that a sore half an inch or more in diameter suppurating for weeks, or even for months, is an occasional sequel of successful vaccination which must be borne with patience, and is to be treated as well as may be with dressings of mild powders and salves of various sorts. The exposure of this error is my motive for writing the present article. I know by experience in their treatment that the most repulsive of such sores may be caused to cease suppurating and to become a dry-scabbed sore in even a single painless dressing and may be healed within perhaps a week. At first I supposed that this fact was known to the mass of practitioners, but apparently it is not. The dressing referred to is a solution of nitrate of silver, about eighty grains to the ounce of distilled water. When such a sore is brought to me I remove the scab, if it has one, wash the surrounding skin clean, perhaps using alcohol, and mop the sore carefully with the silver solution until its surface is covered with a thick layer of white. When this has dried, a dressing of absorbent cotton with bismuth, or what not, dusted on it is applied. The pain of the silver in this strength is insignificant, the suppuration is permanently, or for many days, stopped, the patient almost forgets the sore. In some cases the dressings begin after a week or more to become soaked with pus. A second nitrate of silver application may then complete the healing.

Before I learned this method of healing I used to consider post-vaccinia sores among the most disagreeable sores a physician has to deal with. Under dry dressings of bismuth, calomel, etc., they scabbed and suppurated off, and scabbed and suppurated, until both patient and doctor were tired and disgusted with them. Antiseptic ointments did not cause scabbing, but did not check suppuration. I finally tried nitrate of silver stick with great benefit, but timid children would never let me get near the sore a second time on account of the pain of the caustic stick. The 80-grain solution is almost painless, yet very efficient; children seem not to dread its repetition. After the first dressings with it I have sometimes ordered a small quantity of it and directed the mother to make subsequent dressings with it until healing was accomplished.

I am encouraged to bring this very small therapeutic point to the attention of the professidn by my knowledge of the fact (deduced from observation) that whenever smallpox threatens, and vaccination becomes general, there are in the community dozens, perhaps hundreds, of men, women and children going about week after week with nasty sores which daily suppurate the dressings and perhaps the clothing of the part with irritating pus, until the victims come to look upon vaccination as a very disagreeable ordeal to be avoided as long as possible in themselves, their children and their friends, and welcome any statements, however ill-founded, that profess to prove that "vaccination is unnecessary and nearly as bad as smallpox." What wonder if the patient has two or three months of discomfort whenever he submits to it!

I am accustomed at the time of vaccination to request my patients, in case any pus discharge occurs, to come to me at once, and to assure them that in a few days, perhaps in a single dressing, I will relieve them of all discomfort therefrom.

The only reason that I can suggest for the obstinacy of suppuration of these sores is that the sore was originally a pustule, and that when the top, or scab, comes off it leaves exposed at its site a pit walled and floored, not by healthy tissue, but by the bacteria-infected lining of the pustule. I would cite the aphthous sore of the mouth as an analogy, where the floor of the vesicle is a tough nest of irritating materials, which, when cauterized away, layer after layer, leaves beneath a simple

healthy wound. The granulations which spring up from the floor of the uncovered vaccination pustule seem to be very weak; hence the value of the mild caustic, whose stimulating and disinfecting powers act more deeply than simple surface washes or antiseptic salves.

I have reflected upon the question whether all vaccination vesicles ought not to be at once opened upon their appearance, and, by nitrate of silver or other like application to their interior, brought at once to abortion. This method has been adopted by some in smallpox eruption upon the face and hands. If the whole protective influence of vaccinia has been already received when the papule begins to swell into the vesicle the prevention of the maturation of the vaccinia vesicle by any harmless measure would be a reasonable and desirable undertaking. It is possible, however, that substances absorbed from the vesicle intensify and complete the immunity, but I think it unlikely. The trouble is that since smallpox inoculation has been discontinued there is no easy way in which the efficiency of various modifications of the Jenner method of vaccination can be readily and positively tested by the civilized practitioner. Rather than trust to speculation he is inclined to follow the positive provings of Jenner's age.

Trichloracetic Acid for Persistent Perforation of the Membrana Tympani.—Dr. Felix Pettesohn (*Berliner klinishe Wochenschrift*, 1899, Nos. 15 and 16; *Wiener klinische Rundschau*, May 7th) reports a gratifying degree of success in causing perforations of the membrana tympani to close by the employment of Okuneff's method of cauterization with trichloracetic acid. The acid is applied to the cicatrized border of the perforation, and, according to the effect produced, the cauterization is repeated in four, eight, or fourteen days, care being taken not to apply it too often. The pain is severe, but lasts only a few minutes. In case a scab forms, it is well to wait for its spontaneous detachment.—*New York Medical Journal.*

Correspondence.

AN OMITTED DECIMAL POINT.

Editor The American Therapist.

Dear Sir:—In the April number of your journal, on page 200, is an article on "Hiccough" taken from the *Cyclopedia of Practical Medicine* for April. The prescription is as follows:

℞ Potassium cyanide gr. 75
Syrup of morphine,
Syrup of orange flowers āā ʒ iiss

In the May number of the *Cyclopedia*, page 187, the above prescription was corrected as follows:

℞ Potassium cyanide gr. ¾
Syrup of morphine,
Syrup of orange flowers āā ʒ iiss

Not seeing a correction in the Therapist I take the liberty of sending this note.

Respectfully,

W. N. Winne, M.D.

New Haven, Conn., July 15, 1899.

HYDRARG. BICHLORID. FOR ECZEMA.

Editor American Therapist:

The following treatment I have found an absolute cure for (patulous) eczema, and am therefore pleased to offer it for publication:

℞ Hydrarg. bichlorid ʒi
Alcoholis (90%) ʒss

M. S. "Poison." Apply with camel's hair pencil over surface about size of a silver dollar. To be repeated every third or fourth day; six or eight applications will prove sufficient.

Patient should be cautioned as to its use, as it is powerful and heroic in its action, most always blistering parts painted at first application.

J. D. Westervelt, M.D.

Dallas, Texas.

Cholera Morbus.—To restore the mucous membranes to normal condition, Packard (in *Jour. Am. Med. Ass.*) prescribes:

℞ Hydrargyri chloridi mitis gr. $\frac{1}{12}$
Pulveris aromatici gr. ij
Extracti pancreatici gr. v
Bismuthi subnitratis gr. x
M. Ft. chart No. j.
Sig.: Take every three hours.

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Editorial.

STANDARDIZATION OF DRUGS.

Ten years ago, when preparations were making for the seventh decennial revision of the United States Pharmacopeia, one of the most prominently agitated propositions was the "standardization of fluid extracts." The discussion was widely engaged in by physicians and pharmacists, the former generally favoring, and the latter, for material reasons, opposing the innovation. The question was not settled in the Convention, but delegated to the Committee of Revision; the result was a compromise: only three drugs were standardized, cinchona, nux vomica and opium.

Experience has proved that standardized official extracts of these three drugs afford accurate dosage and comparatively certain therapeutic effect; they can be employed as specifically as the alkaloids or any chemical of known definite composition and physiological effect. It is therefore quite likely that the list of standardized fluid extracts will be increased in the forthcoming U. S. P. 1900, to include the principal drugs susceptible to chemical analysis, *i. e.*, having a principal alkaloid on which a therapeutic effect is physiologically based. Among the drugs thus suitable for standardization, are ipecac, belladonna, colchicum, veratrum, etc.

It has been argued, that the principle of standardization is wrong, and its application futile; that if specific effect based on a principal alkaloid is desired, it will be more rational to employ the pure alkaloid; and that there is a wide difference in therapeutic effects between a drug extract, containing the combined principles of the drug, and the pure predominating alkaloid. It must be admitted, that there is a difference in effects from opium liquor and morphine or codeine, from cinchona elixir and quinine, from nux vomica tincture and strychnia; and there is no analogy between applications of coca wine (or other preparations) and cocaine; while a tincture from fresh digitalis leaves is vastly preferable to the uncertain digitalin —the exact chemical and physiological characters of which are still uncertain.

Granting that there is truth in such arguments, it still remains a fact that the present movement is in the line of progress, and that an advance in scientific therapeutics is possible only by universal standardization. The basis of the specific application of drugs is the physiological effect. Where a drug can be readily assayed, and its alkaloidal percentage established, the effect of a preparation from the drug may be accurately estimated. But there are important drugs that do not yield the active principle on assay, as for instance, digitalis leaves, cannabis indica, ergot, strophanthus, and others; it has been suggested that to standardize such drugs it will be necessary to establish methods for their physiological test on animals. This carries the question far beyond the limits that stirred up the bitter feelings of ten years ago. If adopted, such requirements for pharmacopeial preparations would practically prevent the individual pharmacist from practising his art—or profession; it would revolutionize the crude drug trade, and would actually limit the production of official pharmaceutical preparations to the few great manufacturing firms having facilities to select their crude stocks *en gros* and to test them physiologically.

Such material considerations will prove an almost unsurmountable obstacle to the standardization evolution.

But the principle of standardization is right, and it will prevail in time. We may move forward toward the goal slowly, but we will get there; a stand-still or retrograde movement is impossible.

Current Literature.

THE NUTRITIVE VALUE OF PETROLEUM EMULSIONS. — *The Boston Medical and Surgical Journal* (April 27, 1899) says editorially: The not infrequent employment of emulsions of petroleum as a substitute for cod-liver oil in the case of tuberculous patients who find the latter difficult to take, has led Hutchinson* to undertake an investigation of their nutritive value.

Since petroleum belongs to the paraffin series, a class of oils which are characterized by great resistance to chemical change, it would seem only natural to expect that they would not be readily assimilated by the body.

Hutchinson employed a well-known and widely advertised emulsion of an exceedingly pure petroleum, and administered 30 cubic centimeters, the equivalent of the usual daily dose of the emulsion in question, to a healthy man, who was kept on a constant diet containing a moderate amount of fat. The feces were collected, dried and the fat extracted by ether. It was found that the daily administration of the 30 cubic centimeters of petroleum emulsion increased the ether extract of three day's feces by 25.6 grammes. On separating the petroleum from the other fats in the ether extract it was found that almost exactly the same amount of petroleum was found in the stools which had been ingested in the emulsion. From this and similar experiments the author rightly concludes that petroleum is not absorbed in the human intestine, and can, therefore, not be regarded as a food or a substitute for cod-liver oil.

It is difficult to conceive how the petroleum can have any remote action upon the lungs, or how, if it is not absorbed from the intestine, it can be of any value in the treatment of pulmonary tuberculosis. Whether it might have any value as a local application in intestinal diseases is undecided.

* *British Medical Journal*, March 25, 1899.

ORTHOFORM IN TOOTHACHE.—It is asserted that this substance immediately relieves the severe pain due to inflammation of the pulp of decayed teeth. It is best supplied in strong alcoholic solution upon cotton placed in the tooth cavity. Orthoform is said to be devoid of toxic properties, and for this reason it may be employed as a domestic remedy. Even when used by a physician, it will be found more satisfactory than some of the powerfully toxic substances which are employed in this condition. That orthoform has a distinctly local anesthetic action, has been determined by Lichtwitz and Sabrazes, who have noted this effect in cancer of the larynx, and they have also employed this substance in place of cocain in throat operations. The action of the drug is comparatively slow on unbroken surfaces, and while it is distinctly analgesic, it is not a good substitute for cocain upon unbroken surfaces.

TROPACOCAIN FOT THE EYE.—Rogmann, as quoted in the Journal of the American Medical Association, concludes a review of the various local anesthetics used in ophthalmology, by expressing his preference for tropacocain (Giesel and Liebermann, 1891). The anesthesia is more complete than with others, more rapid in its appearance and more permanent than with cocain. It affects even inflamed tissues. Mydriasis is rare and slight. It has antiseptic properties, and the solution keeps a long while, and is much less toxic than cocain. He uses a 3 per cent. solution with marine salt, 6 per 1000, which deprives it of all irritating properties. The anesthesia is so prompt that for the extraction of a foreign body the cornea can be scratched almost immediately after the instillation of a single drop. Two drops in the conjunctiva opposite each muscle are sufficient for a strabismus operation. In some cases the consecutive painful reaction seems more pronounced than after ether anesthesia.—H. B. E., *in So. Calif. Practitioner*, March, 1899.

Alcarnose. — A nutrient first recommended by Hiller and now lauded by Dr. Freudenberg (*Apotheker-Ztg.—Bulletin of Pharm.*). He has employed it with success in diseases of women, particularly for intestinal opertions of all kinds, where formation of fecal matter must be prevented as much as possible. The substances of which it is composed are present in predigested form, and are therefore easily absorbed. In chlorosis, anemia, etc., where the digestive function is much disturbed and nutrition of the organism in consequence greatly impaired, the author obtained very satisfactory results.

Pellotine Muriate — $C_{13}H_{19}NO_3HCl$ (*Apoth. Zeit.*). Colorless, bitter crystals, easily soluble in water. Given as hypnotic in subcutaneous doses of 0.01 to 0.02 gram ($\frac{1}{6}$ to $1\frac{1}{3}$ grain). Internally administered in powder form, in doses of 0.05 to 0.08 gram ($\frac{5}{6}$ to $\frac{1}{3}$ grain). In some cases pellotine produces secondary effects, such as reduction of pulse, vertigo, buzzing in the head, or a feeling of warmth.—*Bull. of Pharmacy.*

A full report of pellotine was published in the August, 1896, issue of the American Therapist. Subsequently a favorable clinical report was published from one the N. Y. State Insane Asylums, and in 1898 Dr. R. W. Wilcox, in a comprehensive report on Hypnotics, gave Pellotine high rank for safety and efficiency. These are the only American reports we know of; pellotine is not used to any extent in this country. It costs 25 cents per grain, and one grain is equal in effect to 15 grains trional or to 25 grains chloral.

Cocainization of the Spinal Cord.—The remarkable development of our resources for the production of anesthesia by various new substances and new methods of exhibition, says the editor of *Pediatrics* (Aug. 1, 1899), appears to have found a fitting climax in the lately published experiments of Prof. Bier upon the anesthetic action of cocaine when injected into the cerebro-spinal sac, the injection being made under conditions similar to those required by Quincke's exploratory puncture. This method, first suggested, we believe, by an American physician, appears to be able to abolish general and tactile sensibility below the level of the nipples, while consciousness is fully retained. The amount of cocaine required is extremely small, being from one-sixth to one-fourth of a grain at the most, and doubtless the future will show that even a twelfth of a grain will suffice for operations requiring considerable time and degree of interference. Anesthesia is complete in about twenty minutes after administration, and persists for at least three-quarters of an hour. Safety appears to be absolute, although an unpleasant reaction follows the anesthesia in some patients. The pediatrist will be interested to learn that most of Prof. Bier's cases were children and adolescents. The operations were performed for tuberculous bone and joint diseases in the lower extremeties.

Poison Oak Dermitits.—Prof. Brown exhibited a case before his clinic at the N. Y. Post-graduate School (*N. Y. Post-graduate*) and gave his hearers the following suggestions as to treatment:

This little girl came to show the result of treatment since last Saturday. Her hand was covered with a dermititis due to poison oak. There was an intense vesiculation resembling fish roe with no tendency to rupture. In all acute dermititis I use black wash. Insist on the patient wrapping up the parts affected. I use black wash in this dermititis and in any case due to an external cause. When the vesicles have been ruptured in poison oak poisoning, resorcin, 2 per cent., is particularly good.

℞ Resorcin 3½ to i
Magnes. carb.,
Zinci oxid.....āā ʒ ij
Aquae calcis,
Aquae āā ℥ ij

or this may be used:

℞ Sodii hyposulph.,
Sodii borat. āā ʒ ij
Aquae dist..... ℥ vi

No others compare with these given, and black wash is preferable.

Rational Therapeutics in Epilepsy.—The physician's untiring aim in life is to broaden his horizon in clinical medicine (*Medical Fortnightly*, May 15, 1899—*Modern Medicine*). Upon a correct knowledge and management of epilepsy depends the success as to therapeutics in these cases. The fundamental point at the outset is to remove the provocative agent of the attacks. Every form of autointoxication in the blood must be removed in the rational treatment of epileptic conditions; the gastric disturbance must be controlled, as also the flabby condition of the tissues, frequently caused and greatly augmented by overdosage and prolonged use of the bromides. The elimination of all excesses or bad habits, an abundance of outdoor life in the fresh air and sunshine, and an unstimulating, nourishing diet, are indispensable in the treatment of epilepsy. A careful examination of many cases will reveal the fact that anemia, nerve exhaustion and weak heart have much to do with the production and continuance of the trouble. The *sine qua non* in the treatment of epilepsy consists in the alternation or blending of remedial measures combined with the perfect regulation of the organism back into physiological channels of normal action.

Contribution to the Treatment of Chorea Infantum.—N. Filatow says that mental rest is of the greatest importance. The patient must not be excited by studying, must leave school even should he lose a year. With this he should have good food, and his sleep should not be disturbed. As a medicine arsenious acid is the most active drug. At first 10 g. of a 1 per cent. solution are diluted with six tablespoonful of water, and one tablespoonful of this ordered every two hours, and milk should always be drank after it. On the second day 15 g. of this solution are diluted with six tablespoonful of water; on the third day 20 g., and so forth up to 40 g. on the seventh day. From the eighth day on the doses are diminished in the same progression, so that the duration of treatment covers fourteen days, during which time about 0.35 g. arsenious acid will have been used. The latter drug is better than Fowler's solution, which form is much less well borne. If nausea or diarrhea are also caused by arsenious acid it is omitted for one or two days, and then again administered, beginning with a smaller dose. With this, warm baths, iron, and, where insomnia is present, chloral hydrate is also administered. Frequently a marked gain in weight is noticed (in one case as much as 175 g. *pro die*).—*Medicinskage obozrjenje*, Jan., 1898. — *Centralblatt für Kinderheilkunde*, 1898, iii, 378.—*Pediatrics.*

For Sciatica.—

℞ Opii pulv.,
Ipecac. pulv. āā grs. xv
Sodii salicylatis..... grs. 110
Fl. ext. cascar. sagrad..... q. s.
M. et ft. pil. No. xx. Sig.: One to three a day.
—*Medical Record.*

Carbolic Acid Poisoning.—Dr. J. D. Buchanan, of the Flower Hospital (New York City), writes to the *Medical Record*:

On July 25th I was called to see a case of carbolic-acid poisoning. The patient, a woman of about thirty-five years of age, had swallowed over an ounce of ninety-five per cent. carbolic acid. Arriving on the ambulance of the Flower Hospital a short time after her swallowing of the acid, I immediately gave her a hypodermic of sulphate of sodium. Then, as no one at the place showed any disposition to help me to wash her stomach, I had her removed to the hospital. Here, with the aid of the house surgeon, Dr. J. W. Decker, I succeded in washing the stomach with a thirty-five per cent. solution of alcohol, using about two quarts of the alcohol solution. The patient entirely recovered, although her face was badly burned with the acid, and the mucous membrane of the mouth seemed entirely destroyed. I believe that this is the first time that alcohol has been used internally for the burns of carbolic acid.

Ferratose is a new iron tonic, introduced lately in Germany. It is a liquid preparation, with the iron in definite chemical combination.

For Gout.—

℞ Vini sem. colchici ℥ ss
Potass. iodidi ʒ ij
Liq. potass. ℥ iss
Tr. zingiberis ℥ ij
M. Sig.: ʒ i twice daily in warm water.
—*Practical Medicine.*

Coryza.—The *Med. Record* recommends:

℞ Bismuth. subnit. ʒ i
Pulv. camphorae gr. vi
Pulv. acid. boric. gr. iij
Morphin. hydrochlor. gr. ss
Cocainae hydrochlor. gr. ¼
Pulv. benzoini gr. xv
M. S.: Snuff.

℞ Ext. hyoscyami gr. x
Potass. iodidi ʒ i
Potass. bicarb. ʒ iij
Extr. glycyrrh. ʒ i
Aquae anisi ℥ iiiss
M. S.: Dessertspoonful every four hours.

Condurango in the Treatmemt of Dyspepsia.—The *Gazzetta degli ospedali e delle cliniche* for June 6th gives the following formulae. The first is Friedriech's, and the other is Krauss's.

1. ℞ Condurango bark 15 parts
Water 300 parts

Macerate for twelve hours and boil down to a hundred and fifty parts.

A soupspoonful to be taken three times a day.

2. ℞ Powd. condurango bark ... 225 grains
Hydrochloric acid..... 15 drops
Syr. of bitter orange peel .. 2,250 grains
M. S.: A soupspoonful every two hours.
—*N. Y. Med. Journal.*

The Vomiting of Pregnancy.—Dr. John P. Dow (*Massachusetts Medical Journal*, August) says that in mild cases of the vomiting of pregnancy, when medication is not desirable or feasible, he is very fond of following an old German custom. He advises the patient to take a small cup of strong coffee upon waking in the morning—best without sugar and cream—then to remain quietly in bed for an hour before getting up.—*N. Y. Med. Journal.*

NEW PUBLICATIONS.

W. B. Saunders, 925 Walnut Street, Philadelphia, Pa., announces that he has in press for publication about September 1st, 1899, the following new books:

The International Text-Book of Surgery. In 2 volumes. By American and British authors. Edited by J. Collins Warren, M.D., LL.D., Professor of Surgery, Harvard Medical School, Boston; Surgeon to the Massachusetts General Hospital; and A. Pearce Gould, M.S., F.R.C.S., Eng., Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Surgeon to the Middlesex Hospital, London, England. Vol. I. Handsome octavo volume of about 950 pages, with over 400 beautiful illustrations in the text, and 9 lithographic plates.

Heisler's Embryology. A Text-book of Embryology. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. 12mo volume of about 325 pages, handsomely illustrated.

Kyle on the Nose and Throat. Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital. Octavo volume of about 630 pages, with over 150 illustrations and 6 lithographic plates.

Pryor—Pelvic Inflammations. The Treatment of Pelvic Inflammations through the Vagina. By W. R. Pryor, M.D., Professor of Gynecology in the New York Polyclinic. 12mo volume of about 250 pages, handsomely illustrated.

Abbott on Transmissible Diseases. The Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene in the University of Pennsylvania; Director of the Laboratory of Hygiene. Octavo volume of about 325 pages, containing a number of charts and maps, and numerous illustrations.

Jackson—Diseases of the Eye. A Manual of Diseases of the Eye. By Edward Jackson, A M., M.D., late Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. 12mo volume of over 500 pages, with about 175 beautiful illustrations from drawings by the author.

Advance circulars, descriptive of these important works, can be had on application to the publisher.

London Cough Mixture.—

℞ Ac. benzoici gr. xij
Ol. anisi ♏ ij
Spir. ammon. aromat..... ʒ iss
Spir. aether. nitrosi,
Vini ipecacuan.....āā ʒ iij
Tinct. capsici..... ♏ xx
Glycerini ʒ iv
Infus. senegae (conc.) ʒ iij
M. Allow to stand until clear and decant.
S.: Teaspoonful every three hours.
—*Medical Record.*

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VIII. NEW YORK, AUGUST, 1899. No. 2.

Leading Articles.

LACTOPHENIN.

By CLARENCE S. ELDREDGE, M. D.,

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An antipyretic is a medicine which possesses the property of abating or driving away fever;

An anodyne is a medicine which relieves pain; and

A sedative is a medicine which acts directly on vital forces, and is employed whenever it is necessary to diminish preternatural increased action.

A substance possessing all these properties, well known and much used, is *Lactophenin.*

This drug only recently came under my notice, and since that time I have used it in a number of cases for its antipyretic and hypnotic effect upon the system. From clinical experience I have found it allied to phenacetine, as it is chemically, in its therapeutic action.

Briefly, it is a crystalline powder, with a bitter taste, slightly soluble in water, and acting like antipyretics in general when given in doses of from five to fifteen grains.

In typhoid fever I can speak well of the efficacy of lactophenin; experience has been my teacher in these cases; I have seen the temperature reduced, restlessness disappear, and quietude followed by apparent natural sleep. My mode of administration varied; if the temperature was high, I gave eight grains at 8 a. m., and eight grains at 8 p. m.; when fever was well under control, I gave an eight grain powder in the evening: this had a two-fold use—first, reduced temperature, and second the hypnotic properties produced a good night's rest. In this type of fever I have never seen any ill effects, although I have watched very closely; I never saw any depressant action upon the heart.

This drug is quick in its action, the fever beginning to drop from one half to one hour after administration, and the effect lasting sometimes from 12 to 24 hours before the dose need be repeated.

One case I wish to make mention of: Stella L., five years old; when called to see her I found all symptoms of typhoid fever; pulse rate 120, temperature 103 F. I gave lactophenin in 4 grain doses in the evening; my patient slept most of the night except when awakened for nourishment; in the later stage of the disease I gave lactophenin in the morning, and calling two hours after administration found the temperature reduced each day; fever was a trifle lower, and on the fourteenth day the fever broke and patient made a good recovery. In this case my patient had only one complication, and that was nose bleed. Was this a mild case, or did lactophenin and other treatment cut it short, is what I hope to decide from clinical experience with this drug later on.

In la grippe, lactophenin will be of service either alone or in combinations; the severe headaches, pain in back, chest and limbs, are all relieved by the proper and judicious use of this substance. In these cases I have given lactophenin in combination with quinine; the pain is relieved and the temperature reduced; ℞ Lactophenin, 3 grains, quinine sulphate, 2 grains, is a good combination and one to be relied

upon. In la grippe complicated with intestinal trouble, lactophenin and salol works well; lactophenin for its antipyretic and analgesic properties, and salol for its antiseptic properties; ℞ Lactophenin, 3 grains, salol, 3 grains, in capsules, is a formula I have used in these cases.

Lactophenin should always be prescribed by the physician, and not left in the patient's hands to abuse. In cases where you can have absolute control of patient in bed, lactophenin, Dover's powder and quinine, with strict regulation of the diet, will soon bring about a cure. In these cases I have never seen any depressant action, and I believe lactophenin to be one of the least depressing of the newer antipyretics. In la grippe it might be called almost a specific, if such could be the case.

In the various forms of cephalalgia, lactophenin can be relied upon; it is prompt in action and certain in its relief, and has been found especially useful in overworked and neurasthenic patients. Lactophenin in these cases can be given alone or in combination with other remedies. One very good formula is: ℞ Lactophenin, 3 grains, caffeine, 1 grain, camphor monobromated, 1 grain.

In the form of headache due to acute rhinitis, lactophenin is the remedy to use; for the relief of pain and other nose and head symptoms, I have found this formula very useful: ℞ Lactophenin, 3 grains, quinine sulphate, 2 grains, extract belladonna, 1-16 grain; camphor, 1 grain; in capsule form. With this formula I have had most happy results, and my patients have derived great benefit.

In the case of patients where lactophenin does not permanently cure, the cause of the headache must be sought after and removed, meanwhile depending on lactophenin for the relief of pain symptoms. In the headache due to eye-strain give lactophenin for temporary relief, but permanent cure cannot be expected in these cases except by correcting the defect with proper fitting glasses.

In acute rheumatic fever I have given lactophenin with decided benefit, both for the relief of pain and for its antipyretic effect upon the system. I have given it in these cases alone, also combined with the salicylates. I usually prescribe the salicylate of ammonia in liquid form and the lactophenin in powder, regulating the dose by the severity of the attack and the idiosyncrasy of the patient; with this treatment I have had very encouraging results. Another good combination for rheumatism is lactophenin combined with salol or with salicin; with these combinations my results have been very satisfactory.

While preparing this paper I had occasion to use lactophenin for the pain, fever and severe headaches that accompany acute tonsilitis. My patient described her symptoms like this: A sensation of throbbing; the brain felt as though it was pressing on the skull trying to force its way out; tender to the touch; in fact, she was so sick she could scarely raise her head from the pillow, and so sore she could scarely hold her head on the pillow; pulse rate 128, temperature 103.68F. I prescribed lactophenin in four grain doses every two hours; called again in twelve hours, after five doses had been taken, and found the temperature reduced 3 degrees, pulse rate only 96, and the patient generally feeling much better. In this case I gave with lactophenin, codeine sulphate, ¼ grain, in each dose, and my patient experienced great relief. Along with this I also gave the regulation tonsilitis remedies. I continued giving lactophenin in 4 grain doses every two hours for the next 24 hours, and then found temperature 99° and pulse rate 84, practically normal, a decided improvement in so short a time. Therefore, with success like this, I can certainly recommend lactophenin in these cases.

In the treatment of pneumonia, lactophenin can be used with safety. In treating this disease, we have three indications to be met with. First, reduction of temperature; second, medicaments; and third,

heart tonics. For the first indication, lactophenin given in 5 to 8 grain doses, acts both as an antipyretic and analgesic, reduces the temperature promptly, and its analgesic property usually produces a quiet restful sleep; for the second indication, well known expectorants; and for the third, we have strychnine, digitalis, strophanthine, etc. Lactophenin can be given in all cases of pneumonia; the average dose is 4 to 8 grains every 4 hours; in a few cases larger doses will be required, and sometimes smaller doses will suffice. The guide for increasing or diminishing the dose is the reduction of temperature produced and the amount of pain to be relieved; what is wanted is sweating and sleep. Sometimes in pneumonia it is better to give small doses of lactophenin and frequently repeat them; but in all cases the condition of the patient and the severity of the attack must be taken into consideration before administering any antipyretic remedy.

In summing up the uses of lactophenin, I would say: It can be used in all cases where an antipyretic is indicated, and it can be given safely in small or large doses without fear of any depressant action upon the heart.

Lactophenin no doubt acts directly on the thermogenic center, either diminishing heat production or increasing heat dissipation, or producing both at the same time, but clinical experience teaches me that it reduces temperature.

I have never seen any unfavorable symptoms produced by this drug; it does not depress the heart or cause cyanosis, and has no toxic action or accumulative effect upon the system; therefore we can say, it is among the safest of antipyretics.

Lactophenin is easy of administration, being only slightly bitter; it can be given in powder form alone, or in combination with other remedies, in liquid, pill or capsule form.

ALL HYPODERMIC INJECTIONS may be rendered less painful and be more readily absorbed if the active substance is dissolved in saline solution instead of plain water.—*Int. J. Surgery.*

*SLEEPLESSNESS: ITS CAUSE AND TREATMENT.**

By ELMORE S. PETTIJOHN, M.D.,
Medical Superintendent of "The Alma," Alma, Mich.

The study of physiological sleep and pathological sleeplessness is surrounded by great difficulties. No single method of study will give results, so the conditions must be considered from an experimental and clinical standpoint.

"Natural sleep is that condition of physiological repose in which the molecular movements of the brain are no longer projected upon the field of consciousness." Sleep is a condition universally observed in all healthy animals. Its onset may be delayed for a time by the will, but the need of rest finally overcomes all opposition. The sailor sleeps on "the high and giddy mast," and men have fallen asleep oppressed by exhaustion during the roar of a bombardment.

First the power of volition ceases, then the logical association of ideas ends, reason disappears and judgment is suspended. The respiration is diminished about one-fourth and is prolonged; the heart beats less frequently, though somewhat due to the recumbent position; the temperature is somewhat reduced; the functions of the glands and secretory organs are reduced; the tears dry up; the cornea is less moist; the mouth receives less saliva and soon dries when open; the quantity of urine is lessened; the processses of nutrition are reduced and the sleeper knows nothing of the external world nor of his own existence.

The invasion of sleep is usually progressive; certain structures may be fast asleep while others are active. The special senses are overcome before the muscular apparatus yields. The eyes cease to see before the eyelids droop; the senses of touch and taste next fail, while the senses of smell and hearing are more

* Read before the Michigan State Society at the Detroit meeting.—From the *Physician and Surgeon*, September, 1898.

persistent. An odor will keep one awake or awaken one from sound slumber. Persons have been awakened by their own snoring. There is more exposure of effective surface of the nostril and ear-drum. A blind person will often sleep quickly when the ears are stopped.

That the depth of sleep is variable, every one knows. A German physiologist, Kohlschutter, has arranged a gong with a pendulum attachment and noted the length of the stroke which produced a sound sufficiently loud to awaken the patient.

In this way the different degrees of the intensity of awakening noise could be calculated and the depth of sleep estimated, which is as follows: During the first hour the depth of sleep increases rapidly, at the end of which time it is deepest. During the next half hour it diminishes as rapidly as it increased the first half hour. During the next hour it still further diminishes almost as rapidly as it increased the first half hour. The remaining ten half-hours are occupied by comparatively light and gradually diminishing slumber until the vanish of the expiration of eight hours. (It is the deepest during the early part of night.) During the lightest sleep of the last half hour our dreams, grave and gay, take place, as recorded by our best observers and those who study their own dream life.

Tiredness of every kind is the most patent cause of this twin brother of syncope, sleep. The rest following activity is the law of Nature. While the heart and muscles of respiration seem not to sleep, they enjoy repose in regular alternation with activity, though the interval is short. The reaction from severe prolonged pain becomes a cause of sleep.

The control of the cerebral circulation by the vasomotor system is one of the causes of both sleep und sleeplessness. We know that, when functional activity in any organ is lessened, this mechanism reduces the blood supply to that part, but back of the blood current changes are changes in the molecular structures of the brain itself. As mentioned, sleep is the natural repose of a healthy brain and a healthy body. Sleeplessness must therefore be caused by a pathological condition of the organs of the body; or the perversion of their functions due to their diminished vitality from peripheral disturbance; or a morbid condition of the nerves themselves, of which the brain is the center; or from the uniting of two or more of these abnormal conditions. Sleeplessness is therefore a symptom of a pathological condition, as pain is that of the nerve, or temperature the indication of inflammation or a disturbance of the heat-forming centers. The cause is multiple, never single. Owing to the reluctance of recognizing this symptom as the expression of a possible serious condition the habit is usually fixed by the time the physician is asked to prescribe.

The presence of light prevents sleep or renders it less profound and unrefreshing to those accustomed to sleep in the dark. Even though longer hours are occupied during the day than at night, the patient suffers from want of natural sleep, as in the case of night operators, watchmen and clerks, who often by this work undermine their health. The lightning would awaken the sleeper, if the thunder did not do so.

The various opias and phorias with the abnormal condition of the ocular muscles that need to be cut or cultivated, or any visual defeat, have their part in the category of causation. While these mechanical defects have their place in the consideration and should be removed, I am persuaded that the eye symptoms are more often the *result* of the *exhausted ill-fed* or *poisoned brain*, owing to the central location of the optic tract, than of the perversion of the exalted mechanism of the eye itself.

Odors disturb sleep. The southeast part of Chicago has been complaining recently of *sleep* disturbances on account of the smell from the stock yards. The

smell of smoke will awaken one and is frequently the first alarm of fire.

A change of temperature will disturb or prevent sleep. If the air be too warm and so moist as to inhibit exhalation and evaporation from the skin, the sleeper becomes irritable and restless, due to excitation of the brain.

Cold, by contracting the cutaneous vessels and impeding circulation in them prevents carbonic acid exhalation, and since the liberation of heat in the tissues owing to the diminished combustion, is only about one-third the amount while asleep as in the equal period of waking, the discomfort produces wakefulness. Even local cold, as of the feet or shoulders, excites the brain and awakens the sleeper. An empty stomach is one of the causes of sleeplessness and one I believe to be quite frequent.

The local irritation of insects, even *one* mosquito, or the conditions of the skin from its various diseases; or dryness as in jaundice, kidney disease and some forms of nervous disease, as neuralgia and neuritis by transmission to the brain of these painful impressions, awakens the sleeper and prevents rest.

The great sympathetic with the pneumogastric carrying pain impressions to the brain's consciousness, conspire to produce sleeplessness. Gaseous distension of the bowels or an overloaded colon, or ascites, diminishing the mesenteric circulation by pressure (which circulation is the relief valve of the brain) like the equalizing of the water level in two connecting tanks; or colic, or the inflammatory thoracic, abdominal, or pelvic diseases, by transmitting their pain messages through the sympathetic system to the brain, all tend to prevent sleep.

A brain gorged with blood from excitement causes sleeplessness, which functional condition if prolonged tends to produce permanent organic change in the cerebral cells. When the nerve substance is thus changed the nutrition of the entire body decreases and anemia and tissue starvation ensues.

Alcohol, tea, coffee and other chemical substances stimulate the molecular activity of the brain and prevent sleep. Their effects continue several hours or until they are neutralized, or are carried away in the blood current, or have expended their energy.

TREATMENT.

There is probably no other one physical condition the physician is so unable to combat successfully as insomnia. In general, the removal of every source of physical irritation and the restoration of the physiological order of life with subsequent repair of all the tissues, is the end sought in treatment. That is, a man must be perfectly well to be able to sleep well.

Since the cause of sleeplessness varies constantly in each different disease and in the same disease in different individuals, each case is *one* by itself and needs experienced medical treatment. Brain-workers seem the greatest sufferers from sleeplessness owing no doubt to the constant overuse of nervous energy. Nerve force expenditure is not easily measured. Excitement often takes the place of real nerve energy and the patient is unconscious of his peril until exhaustion occurs.

Passive Treatment.—With what I term the passive treatment and remedies, whose name is legion, we are all familiar and I shall only mention a few that have been found most successful.

The application of heat, just previously to the time for sleep in the form of a pack or a warm bath has a most tranquilizing effect; either a full or a foot bath with sea salt dissolved, the temperature agreeably comfortable. A gentle sponging followed by light friction is used when the patient is feeble. This is applicable in the daytime and evening.

Massage combined with friction, rendering the circulation of the blood and lymph more equable as well as more active in the muscles and skin, and modifying the electrical conditions of the whole body, relieves irritation, fatigue and restlessness and produces salutary effects.

Electricity, static, galvanic or faradic, applied generally, produces in some cases a marked if temporary feeling of sleeplessness. The static breeze, galvanization of cervical sympathetic, general faradization and the hydroelectric bath, have each been found helpful in selected cases. There are some patients made worse by any form of electricity and this remedy should never be used in a routine way, but after a careful study of the case.

Food administration is a very important treatment. The patient should eat even without an appetite. Sick, restless patients are not expected to have the usual relish for food. A generous wholesome mixed diet of meats, vegetables, milk, eggs, bread and butter, fruit, with the relishes three to six times a day should be prescribed. It may be necessary to assist the patient by stomach and intestinal digestants, but *the food should be taken.* A luncheon on retiring, a pint of milk with a little brandy will render better aid in many cases, than thirty grains of chloral and bromide combined.

The use of trional I have found most effectual when patient is unable to sleep after retiring. Ten to 15 grains are administered in a glass of hot milk and repeated in a half hour on the belief and from the experience of three years, that the effects begin within an hour after administration. If the patient is able to fall asleep but awakens frequently, or after a few hours rest, and finds it difficult to sleep, sulfonal, ten to twenty grains, is administered in the same manner at 5 o'clock in the afternoon and again at bedtime. Its effects last often during the next day and night, and it should be given only on alternate days. A simple aqueous solution of sodium or lithium bromide, ten to fifteen grains, given three times, half hour apart, before retiring, inhibits functional energy of the protoplasmic constituents of the nerve centers, the blood-vessels contract from a lessened blood supply and sleep follows. In cases of muscular agitation the fluid extract of conium added to the bromide aids in reducing the cerebral excitement.

In the Active Treatment the patient must be a willing and ready coadjutor, and with his persistent methodic help sleep may be enjoyed with the administration of a few remedies. An hour or more of preparation should be made. Sleep should be planned for as other necessaries.

Absence of conversation, discussion or even amusement that uses brain force, should be insisted upon. The patient should have a regularly recurrent periodic rest-cure regime, for an hour or more daily, before he expects sleep. He should do no consecutive thinking and not follow out a train of thought. The concentration of thought on a light or even dull story, or, even as the monks of old, by counting a rosary but breaking the number are helpful. So far as possible the Will should turn the ideas out of doors, and lock the vacuum against them.

Haste and vigor should be avoided. Let every motion be calm, gentle, easy, deliberate and slow. Quiet should reign. The comfortable, clean, downy bed is ready, the patient is ready for the bed. Rest and sleep should be the sole business of the hours to come. Insist upon the recumbent posture (many patients *think* they cannot sleep because they have not and do not give themselves the opportunity) with removal of clothing, and then insist upon complete relaxation of body, mind and spirit. Breathing should be full, free and deep, slow and gentle. Ventilate, darken the room and give your patient the following directions: To lie upon his right side with his head comfortably placed upon the pillow (one pillow only and no bolster), having the neck straight, so that respiration may not be impeded. The lips are then to be closed and a full inspiration taken, the breathing being exclusively through the nostrils. After the full inspiration has been taken, the lungs are to be left to their own action. Attention must now be fixed upon the respira-

tion. The person must imagine that he sees the breath passing from his nostrils in a continuous stream, and at the instant he brings his mind to conceive this, apart from all other ideas, consciousness ought to leave him. If this method does not at once succeed, it is to be persevered in, and if conscientiously carried out is likely to bring the desired result. To lie on the right side gives the heart freer action than when the body rests on the left. To breathe through the nostrils, although scientifically approved, is comparatively seldom adopted by civilized people in the daytime. With mouth-breathers the probability is that no change takes place in this particular during the hours of repose, and if they snore it is from their own bad habit, as snoring can be stopped by tieing up the chin. Insist upon the persistent repetition of a definite procedure *every evening, and even in the daytime after the midday meal.*

No one can tell how much sleep he has lost, for no one knows how much he needs. Therefore, each one must have as much as he can get, and if he becomes exhausted, *he must make up what he has lost by increasing the number of hours daily.* The old division of eight hours sleep, eight recreation, and eight work, should be applicable now, and if rigidly followed so many people would not be seeking rem edies for sleeplessness.

What the Human Body Will Yield.—A French statistician has calculated that the average human body contains enough fat to produce 13 pounds of candles; enough carbon to make 65 gross of "lead" pencils; and sufficient phosphorus to tip 820,000 matches. Perhaps he will complete his observations by calculating how many bone-handled knives one body would furnish, how many watch-springs could be made from the iron in the blood, and how much mortar could be made from the lime contained in the tissues. When he has done this we will suggest sundry other as yet unsolved problems.—*Medical Press and Circular.*

*GALL STONES.**

By D. C. Brockman, M.D.,
Ottumwa, Iowa.

There is probably no common disease that is so frequently wrongly diagnosed as is the various pathological conditions that result from gall-stones. A very large majority of the physicians throughout the country refuse to accept a diagnosis of gall-stones unless the case presents the ancient classical symptoms of severe paroxysmal pain in the right hypochondrium followed by jaundice. Recent observations show that less than one case in five exhibits well defined jaundice at any period. As I said, there is no error in modern pathology more common than this, and it is with the hope that a free discussion of the subject may help to clear up some of these errors that I have prepared this paper.

Gall-stones are found most frequently in the gall-bladder, next in the cystic duct, then the common duct, and less frequently in the hepatic or intra-hepatic ducts, and, while they usually form in the cyst, they undoubtedly also form in any part of the bile apparatus. Very many cases of large accumulations of stones are discovered accidentally that were never suspected—no symptoms having ever been noticed. These are the cases where the stones are so large that they do not occlude the ducts, and in which the gall-bladder is tolerant to them and has not become infected. There is yet much to be learned about the use of the gall-bladder. The theory we were taught twenty-five years ago, about its being a reservoir for the storing up of surplus bile, is evidently erroneous, as are many other obsolete theories. Here then is a field for the labors of an enterprising physiologist. The composition and formation of gall-stones can be studied in any text-book, so I will not take up your time with them in this paper. The symptoms and pathology can best be studied together.

* From the *Iowa Medical Journal*, April 1899.

Before considering the symptoms of cholelithiasis we should bear in mind that the condition presents no symptoms until either some duct has become obstructed or infection of some part of the bile apparatus has occurred. The only exception to this rule is in those thin-walled persons, where large painless sacs of stones are accidentally discovered. Within the past six months I have met two such cases, in neither of which had there ever been any suspicion of trouble of any kind in this region.

The symptoms differ in the two classes and are governed by the character and locations of obstructions or infection. A medium-sized stone lodged in the cystic duct will cause severe paroxysms of pain in the right hypochondrium, accompanied by vomiting. The pain is very severe, causing great restlessness and frequently loud outcries of the most extreme agony, accompanied by marked depression, a condition of shock bordering on collapse.

In the interval between paroxysms the patient is easier, but not free from pain—this is true bilious or hepatic colic, and continues until the stone passes out of the cystic into the common duct, then the pain becomes less severe, but retains the characteristic paroxysms, and if the stone is large enough to obstruct the duct and remain impacted for more than an hour or two the characteristic jaundice appears and continues until the stone escapes from the duct, and we have all the classical symptoms of gall-stones as described by the older writers. At times the stone may lodge in the choledochus and cause an enlargement of the calibre of the duct so a restricted flow of bile may take place around it into the intestines. This flow is usually intermittent, owing to temporary obstructions caused by the ball-valve action of the stone, as has been so ably described by Fenger of Chicago, while the former class of cases are practically well as soon as the stone has escaped into the intestine, and they remain so until another stone enters the upper end of the duct. The latter class is never cured by nature, except possibly the stone might ulcerate into an adherent loop of intestine.

Another accident that may occur in these cases is due to the stone lodging at the opening of the pancreatic duct, causing a more or less complete obstruction to the flow of pancreatic fluid. Then we have, as a result, the damming back of this fluid in the pancreatic duct until a retention cyst is formed, and we have as a complication a typical pancreatic cyst.

As I have before expressed myself in this society, my opinion is that the very great majority of pancreatic cysts are the direct result of obstruction of the ampulla of the choledochus by gall-stone. I have had two such cases, one verified by an autopsy and the other by oft recurring attacks of hepatic colic, reaching over many years. This is a subject, scarcely mentioned in any text-book, that is worthy of more attention. In case the gall-bladder, containing calculi, becomes infected with very virulent pyogenic bacteria a most malignant cholangitis occurs, which spreads rapidly into the surrounding tissues and speedily results in death, unless very prompt surgical measures are resorted to. These are the cases that result fatally about as speedily as do the so-called fulminating type of appendicitis, and the symptoms are so much alike, the location of the pathology so near in each case that many skilled diagnosticians have made the error of calling a gangrenous gall-bladder an appendicitis, and *vice versa*. Such a mistake is far less harmful to the patient than a delay in operating in either case.

A sudden onset of violent inflammation in the region of the gall-bladder, accompanied by high temperature and rapid pulse, with symptoms of grave sepsis and profound shock, indicate acute cholecystitis and a rapidly spreading gangrene of viscus should be expected, and if possible prevented by an early operation.

A much more common, and fortunately less fatal complication of cholelithiasis, is the oft recurring cystitis in a sac filled with stones. Here the symptoms and pathology are so harmonious that mistakes should seldom occur. The pathology of such an attack is caused by a stone, too large to pass through the cystic duct, becoming engaged in the funnel-shaped entrance of the duct and obstructing the flow of bile-stained mucus that is found in the cyst. As the mucus accumulates in the sac it increases the pressure on the stone, wedging it down more firmly into the duct. The cyst enlarges, becomes painful and inflamed, the patient suffers from a steady boring or tearing pain in right hypochondrium, persistent and oft recurring vomiting, usually has rigors followed by fever, great tenderness and easily defined tumor in gall-bladder region, a retention cyst of the gall-bladder.

Here we have a typical and frequently seen cholecystitis, due to blocking of the neck of cyst by a stone, and the condition continues until the sack enlarges so that the neck of the sac is so obliterated that the stone drops back into the sac, when much of the tumor disappears. The patient now gets better, almost well, except tenderness over the gall-bladder, till this or another stone again obstructs the duct, when the same drama is enacted, and continues to be repeated till either the cyst is emptied by a cholecystotomy or a perforation of the sac or duct occurs, which rapidly closes the scene through a most violent septic peritonitis.

In many cases the cyst walls are so thickened that it does not become sufficiently distended to show through the abdominal walls, but all the other symptoms are present. These are the patients that are treated for colic, gastralgia, inflammation of the liver, etc., month after month, till the true nature of the disease is discovered.

It is a safe rule to call all frequently recurring attacks of pain in right hypochondrium cholecystitis that are not either localized peritonitis or of renal origin. The temperature of these cases is usually very persistent, but not very high. During the acme of attack it will frequently run up to 102½ to 103½, to fall in two or three days to about 99, where it will remain for weeks and even months, seldom ever reaching normal, and not infrequently reading 100 while the patient is about her work. We say "her" because five out of six cases of gall-stones occur in the female. No age is exempt, although they are seldom found under 12 to 15 years, and not frequently until after 20 years.

The prognosis depends upon the character of the disease and treatment. Acute cholangitis is a very grave condition, and proves rapidly fatal in a large proportion of cases; is almost necessarily fatal, except an operation is speedily done. The passage of small stones, so long as the gall tract remains free from sepsis, is usually not attended by any very great risk, although it may prove very annoying on account of recurring pain. A sac filled with large stones is not dangerous nor troublesome so long as it remains free from infection. If mild infection occurs, or a stone obstructs any part of the tract, the patient will probably not get entire relief till the cyst is opened and emptied. Unfortunately the victim of cholelithiasis is liable to have infection of the bile tract at any moment, so has no assurance of safety so long as the condition remains.

The treatment depends entirely upon the pathology of the case under consideration. During the attack of hepatic colic the pain should be relieved by hypodermics of morphine, or, possibly, in very obstinate cases, by whiffs of chloroform, and the patient relaxed by hot baths. All food should be withheld, and as vomiting is usually persistent, medicine by the stomach is useless. Gentle, well-directed massage will do good in some cases where the muscles are not too rigid, by hastening the passage of the stone into

the duodenum. After the stone has passed, the patient should be directed to take a drachm of sodii phosphate in water two or three times a day before meals for months, or until cured. Just how this remedy does good no one seems to understand, but it is a fact that very many cases improve under this treatment that do not under any other. It should be continued for months or years, or so long as there is any signs of the old enemy.

Where the stone is lodged in the choledochus and is causing much jaundice it is safer to cut down and examine the condition carefully and do what is indicated. Usually the gall-sac will be filled with stones and mucus. If so, it should be opened and emptied. If possible, the impacted stone should be removed, either with forceps through the cystic opening or pushed carefully through into the duodenum, or crushed with padded forceps, and the fragments removed, or the duct incised and stone removed, and the duct closed with Lembert sutures and covered over with peritoneum to prevent leakage. After removing the stone it is sometimes found impossible to close the opening in the duct. Two or three surgeons in such cases have walled off the peritoneal cavity with omentum and gauze and drained the duct with tubular drain out through the parietal wound. It is no easy matter to reach up under the ribs and do an operation on the common duct, and not infrequently neither of these proceedings is feasible. Then, it is best to let the stone remain in the duct for the present and do a cholecystentorostomy with Murphy's button, provided the patient is in good general condition; but if she is, as is usually the case, profoundly cholemic, it is not advisable to prolong the operation, as such patients bear operations badly and bleed profusely. Under these circumstances it is best to drain the gall-bladder by stitching it into the incision and waiting until the patient is in a better condition, when a more radical operation may be undertaken to rid the duct of the offending stone. In case a severe septic cystic inflammation occurs, prompt surgery is the patient's only salvation. The cyst should be exposed by a vertical incision at the outer side of the rectus—the abdominal cavity walled off with gauze and a free opening made in the septic viscus. Any part of the walls that is gangrenous should be removed and the cavity drained with gauze or soft rubber tubing and the wound treated as any other case of septic intra-abdominal trouble. Where a mild infection has occurred or the neck of the sac has become blocked by a stone and the sac filled with bile-stained mucus, if the case is not urgent, it may be treated for a while with sodii phosphate in one-drachm doses two or three times a day for two or three months, but in the great majority of cases no permanent improvement will occur till the sac is opened and emptied. There are three operations for this condition, and the one most suitable for each case must be determined at time of operation by a careful examination of conditions found.

A cholecystectomy, and ideal cholecystotomy, or, as it is sometimes called, cholecystendyse or a cholecystotomy, may be done. A few surgeons advocate and practice complete removal of the gall-bladder whenever possible, claiming better results and less liability to future trouble, but the mortality is as yet too high to warrant the operation, except in those cases where there is gangrene of a large part of the sac. When there is no obstruction in the duct nor infection of cyst after it has been emptied, the incision in sac may be closed by a double row of Lembert sutures and the cyst dropped back into the abdomen and the wound closed without drainage. This is apparently the ideal operation, but the results have not yet shown it to be as safe as a simple cholecystostomy, in which the cyst walls are stitched to the peritoneum, an opening made and the contents removed and a large, soft drain introduced,

or the sac loosely packed with gauze. The reason in favor of the former operation is, that in it we avoid all danger of a troublesome fistula or the pain due to adhesions between cyst and abdominal wall, and the convalescence is greatly shortened by an immediate closure of the wound. On the other hand, when a fistula results, it can be easily cured by a plastic operation, provided the ducts are free from obstruction and the danger of hernia up so high in the abdominal wall is very slight. The dragging pain is obviated by stitching the sac to the peritoneum only, and not to the entire parietal wall, as is often done; and, as I have said before, until the record shows a lower death rate following the ideal operation, I shall continue to advocate the safer, cholecystostomy.

In this short paper I have not tried to review the literature, but rather to boil down the recent teaching and present it in as plain a manner as possible for the use of the general practitioner into whose hands these cases usually first come, and on whose judgment and advice the welfare of the patient must depend.

*CHRYSAROBIN A SPECIFIC FOR WARTS.**

By G. W. Fitz, M.D.,
Assistant Professor of Physiology and Hygiene, and Medical Visitor, Harvard University.

Since 1895, when Dubreuilh † called attention to the presence of warts on the feet, the characteristic differences between warts and corns have been more or less generally recognized. Warts on the feet are readily distinguished by their location (usually upon the plantar aspect of the foot) and by their bleeding from a central, verticle bundle of papillae arranged like a pepper-box and ordinarily projecting somewhat above the pared surface. This central bundle of papillae is surrounded by a thickened area of skin penetrating to a greater or less depth and an outer painful zone of inflamed skin.

In 1891 I saw for the first time a wart in this situation and attempted to cure it with salicylic acid in collodion. I found after a trial of three weeks that this was not effective. I was then led, from its superficial resemblance to the lesion of psoriasis (bleeding points), to try a solution of chrysarobin in gutta-percha. The wart was thoroughly pared until there was profuse bleeding and the solution applied to the denuded surface. The patient was directed to cut the surface every night and apply the chrysarobin. In a few days the pain disappeared, and the wart seemed diminished in size. In two weeks' time the wart was practically gone and the surface restored to its normal condition.

Since that time I have been able to apply chrysarobin in eight cases of warts similarly located. Some were apparently due to stone bruises; others, to the irritation of defects in the boots; and of others, again, no history could be obtained. In one case there were three warts on the ball and two upon the heel of the same foot. Several of the cases came to me after having been treated for months by salicylic acid without success, even though the physician in charge had made the application himself each week.

In most cases the chrysarobin produced little effect before the end of the first week, except that the pain became less and the wart did not increase; in the second week, change was rapid in most of the cases, although in a few cases there was still little effect. In the third week the majority were cured.

In the series of eight cases there have been no failures. Two apparent failures were traced to difficulty in paring the wart and as soon as this was remedied by sandpapering the cure progressed favorably. On the whole, careful thinning of the surface with a sharp, fine glass-paper gives better results than paring

* From Boston *Medical and Surgical Journal*, June 29, 1899.

† Annals de Dermat. et de Syph., May, 1895, reviewed by Bowen in Boston *Medical and Surgical Journal*, vol. cxxxv, p. 262.

with a knife, as the patient is less afraid of injuring himself and can more conveniently handle the paper.

My experience has been that the chrysarobin may be applied either in a ten-per-cent. solution of the ordinary gutta-percha solution or in a ten-per-cent. ether solution. It is best to apply ihe chrysarobin at night and advise the patient to put on an old stocking, to prevent soiling the bed-clothing. Application once a day in this way seems ordinarily to be sufficient, but in obstinate cases it should be applied both night and morning.

The influence of the chrysarobin seems to be not only upon the keratinized portion of the skin, but also upon the proliferated blood-vessels in the papilary central part, for both disappear and true skin is formed over the surface. No scab was thrown off, but a considerable thickness of the surface was removed in each case by cutting and sandpapering.

A correspondent has reported two additional cases of cure with chrysarobin, making the total number of cases ten. The attempt to try the effect of chrysarobin on warts on other parts of the body has been possible in but one case (warts on the hand), where it had the same favorable effect.

Experiments with chrysarobin on corns shows that it has practically no effect.

The claims of chrysarobin as a specific for warts may be summed up as follows :

(1) Success in a series of ten cases of warts on the sole of the foot in which the diagnosis was perfectly clear.

(2) Similar success in one case of warts on the hands.

(3) No failure in any case where the application was made repeatedly on the denuded surface of the wart.

(4) No subsequent recurrence of the warts.

Hetol and Hetokresol (*cinnamylmetakresol*) are new agents for treating tuberculosis, introduced by Dr. A. Lauderer, of Stuttgart.

*METHOD OF USING PROTARGOL IN GONORRHŒA.**

By J. Stephen Nagel, Ph. G., M.D.,
Assistant Genito-Urinary Surgeon, Chicago Clinical School, Attending Physician to West Side Free Dispensary.

This comparatively new anti-gonorrhoicum is a stable proteid compound of silver, more soluble than argonin, and possessing peculiar diffusing properties, and is less irritating than silver nitrate. I especially invite the attention, to the use of this drug, of those who still follow the old method of combating this disease with balsam copaiba, oil of santalwood and astringent injections.

In over fifty cases I have never seen its use attended by any unpleasant results.

The general plan of treatment which I shall outline must necessarily be varied some to suit individual cases.

The protargol injections should be commenced as soon as the discharge appears and continued as long as the microscope shows any of the gonococci present. The treatment should be started with a one-fourth of one per cent. solution in distilled water, to be used in a blunt pointed hard rubber or glass syringe. The patient is instructed to inject one syringeful every four hours *day* and *night* and to retain it in the urethral canal, by compressing the meatus, for two or three minutes. In order to bring the disease to a termination in the shortest possible time it is quite essential that the former condition be insisted upon and explain to the patient the necessity of combating the infection the entire twenty-four hours. Where this is not done the germs are allowed to go on multiplying unmolested from eight to ten hours. At the end of five or six days the strength of the solution should be increased to one-half of one per cent. The amount of discharge and the number of gonococci will have materially decreased and the mucous membrane of the urethra will have become more tolerant. The interval between injections should now be lengthened to six hours and the solution

* From *The Plexus*, June, 1899.

retained for four or five minutes. This should be continued for another five or six days, noting all the time that the amount of discharge is on the decline, and, if the microscope be brought into use, we will see a further diminution in the number of gonococci.

The amount of protargol should again be increased to three-fourths of one per cent. The interval lengthened to every eight hours and length of time of retention six to eight minutes. If at the end of the third week the microscope shows a few lurking gonococci the strength of the injection should be increased to one and one-half per cent. and injected twice daily, to be retained in the morning for ten minutes and in the evenings for fifteen. If the patient finds it impossible to retain it for this length of time, let him use two or more injections, expressing the previous one, and noting time of retention of each.

In following up this method of treatment an uncomplicated case of anterior urethritis can, in the majority of cases, be entirely and permanently cured in from fifteen to eighteen days. The following table will give at a glance the general plan to be observed :

Strength of injection.	Length of retention.	Interval between injection.
¼ % "	2 to 3 mins.	4 hours.
½ % "	4 to 5 "	6 "
¾ to 1 % "	6 to 8 "	8 "
1½ % "	10 to 15 "	12 "

The microscope is an essential factor in the treatment of this disease, for, as previously stated, the protargol injections should be continued until all the gonococci have disappeared; then and not until then should its use be dispensed with. Again, frequently after all the gonococci have been destroyed, we have a catarrhal discharge remaining composed of leucocytes, epithelial cells and mucous.

This is the period when astringent injections, such as copper and zinc sulphate, lead acetate, hydrastine, and many others, play an admirable part in the course of gonorrhœa. They may be used in conjunction with protargol in the later stages where we have an abundant catarrhal discharge and only a few gonococci, using them twice daily and one and a half per cent. solution protargol once daily.

No internal medication need be given unless the urine is excessively acid and causes undue burning on urination, when any of the alkaline diuretics can be administered. Should painful erections give the patient any inconvenience the following powder may be given at bedtime :

℞ Patossii Bromidi
Antipyrin.....āā grs. xv.
M. ft. chart. No. I

To close with I wish to quote from Neisser as to this remedy : "Protargol is the best, the safest, the most rapid, in fact, the ideal remedy for gonorrhœa, inasmuch as the gonococci are killed without the mucous membrane being affected or the inflammation and suppuration increased."

*TREATMENT OF PNEUMONIA.**

By A. Chase, A.B., M.D., Downieville, Cal.

The most successful treatment consists in giving a patient a hot water bath. When nothing better was at hand I have often called for a teakettleful of boiling water and a bucket of cold water, a wash basin, and a bathing or large wash tub. Seating the patient on a stool in the tub, covered with a sheet, having the water mixed in a wash basin, as hot as it can be borne, I ladle it on the sheet covering the patient. From the teakettle of boiling water and the pail of cold water the wash basin is kept replenished. This hot bath is kept up for thirty or forty minutes. If the patient complains of suffocation, cut a hole in the sheet and let his nose out. While under this simple modus operandi they will tell you that they have sweat more than the water you have put on them. By inhaling the hot vapor they

* From *Pacific Medical Journal.*

will expectorate a large amount of mucus and phlegm and sometimes more or less blood. In this way the bronchial tubes and more or less of the lungs are cleared of a good deal of obstruction. The whole blood is made more fluid by perspiration and absorption in water, so that the heart works much easier and the dyspnœa is greatly relieved; in short, you have respited the patient and gained time for the operation of medicine. After this vapor bath the patient is to be wrapped up in a warm bed, with temperature of the room at 72°. I describe this plan minutely because it is always available in the city and country alike, not only for pneumonia, but also very useful for rheumatic and all bilious fevers, especially if employed as the initial treatment at the very onset of the attack.

The next thing for our pneumonia patient is an alcoholic stimulant, well sweetened, and a little syrup of squills added. Then comes the croton oil—10 to 30 drops—brushed over that portion of the lung which sounds dull on percussion. Over this apply a generous hot mustard poultice, not too strong,—say, one part of mustard to ten or twelve parts of flour —so that it can be borne for many hours.

As a type of the cathartic to be administered, perhaps calomel, ipecac and antimony in small, frequent doses answers well. Two grains of calomel, one grain of ipecac and one-eighth of a grain of tartar emetic administered every hour for four, five or six hours, or until a free evacuation of the bowels is secured. The application of the croton oil and mustard not only hastens the operation of the bowels, but also assists in breaking up the engorgement of the lungs. As the best counter-irritant they do away with the much discussed point of when is the best time to apply blisters in pneumonia. Follow up this treatment with the salts of ammonia—the muriate is preferred. Ammonia not only acts as a stimulant to circulation, but also to liquefy the fibrinous exudations, and in old age to saponify the deposits from the fatty degeneration of the heart, liver and other organs, thereby enabling the absorbents of the lymphatics to excrete and remove them. From the peculiar plicated structure of the air cells this exudation does not lead to the production of new tissue, as in pleuritis. Coagulation, then, is the danger we have to contend with. But as the liquid form of fibrine in the blood is due to the presence of ammonia, it may be given freely as a preventive, as well as curative, throughout the whole duration of the disease. Free alcoholic stimulants form a very important part of the supporting treatment. Their tolerance is well marked; anti-bilious tonics—essence of beef and brandy and egg mixtures—*pro re nata.*

Often too much attention has been directed to the disease and far too little to the good nursing of the patient. In a severe acute attack, for the first five or six hours, the treatment had better be conducted by the physician himself than trusted to almost any one else. By this course of treatment I have seen all the bad symptoms of pneumonia wonderfully relieved, the disease aborted and the patient out of doors the third or fourth day. If this, like remittent bilious fevers with which I have seen it often associated in high altitudes, is broken in its first stage, that of congestion or engorgement, or in the second stage, that of red hepitization, or before it has advanced very far in the latter stage, then the lung resumes its healthy appearance and action without much impairment of its elasticity. In this way, too, we avoid the degeneration of the heart muscle under long strain under high temperature. This treatment of pneumonia cannot be called heroic, but prompt and active enough to abort the disease. Recovery is immediate, without entailing a long sequel of phthisis pulmonalis.

In adopting this simple line of practice I am only doing that which my reading and experience have long since taught me was much the best, not only for the ultimate safety of the patient, but even for cutting short the duration of the disease.

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Editorial.

PATENTED NEW REMEDIES.

The meetings of the American Pharmaceutical Association this year were notable because of an unusual number of thoughtful and broad-viewed committee reports, embracing particularly subjects of interest and moment to both the medical and the pharmaceutical professions. The revision of the United States Pharmacopoeia was the ultimate object in view of most of the questions discussed, and it appears that the majority of the clear-minded and and leading members favor a liberal extension of the standardization of drugs, as also fair treatment of synthetic new remedies.

Reward for chemists and manufacturers of synthetic drugs, "due them for divulging their processes," was advocated; and applying this determination to the question of indorsing the admittance of patented synthetics into the Pharmacopoeia, it was concluded that the resultant "credit and commercial prestige" should not be withheld, and that "the protection of the patent law to medicinal chemical industries is ethical and right."

This is progress, truly!

Six years ago we wrote, in a review of Progress in Pharmacy (Treat's Medical Annual, 1894, p. 604), with other comments on the then just published United States Pharmacopoeia, 1890:

When the eighth Decennial Revision of the U. S. P. is taken in hand the patents on these new remedies (antipyrin, phenacetin, sulphonal, saccharin, etc.) will have expired—just as patents on salicylic acid and similar new remedies of fifteen and twenty years ago have now lapsed—and then they will be eligible in the prejudiced minds of those responsible for the present short-sighted exclusion; perhaps, too, more liberal ideas will then prevail, and the U. S. P. will again take its place in the vanguard of progress in this direction, by permitting the introduction of standard products which to-day are in more extended use, and a greater therapeutical boon, than one-half of the moss-covered drug relics of by-gone days which swell the official list of *materia medica* fully a third beyond its necessary length.

The dawn of the hoped-for enlightenment is breaking. Leaders in medicine and in pharmacy are now on the side of just liberality, and there is hope that the new U. S. P. will not stand behind the British, the German, and other standard Pharmacopoeias in giving official rank to tested and meritorious new remedies of synthetic origin.

WHEN THE PATENT on a medicinal chemical product expires, the generic name becomes free for all at the same time; no trade-mark can perpetuate the limited control enjoyed under the patent. Some writers—and editors—misrepresent this fact to this day; and they do it wilfully or from ignorance.

DERMATOL IN DIARRHEA OF CHILDREN.—Dr. Poix (*Correspbl. f. Schweizer Aertze—Boston M. and S. Journal*) administers dermatol in doses of one gramme per day to children of six months and under, or two grammes and more to older ones. It is administered in any mucilaginous vehicle, a teaspoonful every hour. The results are highly satisfactory.

ERGOT IN THE SORE THROAT OF PHTHISIS.—Dr. J. Howe Adams (*Medical Times*, September) records six cases of phthisis in which congested pharyngeal "sore throat" was treated by the administration of the fluid extract of ergot in twenty-minim doses three times a day with excellent results, the sore throat subsiding in from three to five days. Ulceration was present in two cases. All the cases but one were those of patients in an advanced stage of phthisis.—*N. Y. Medical Journal.*

Current Literature.

The Uses of Hyoscine.—Dr. J. Fotheringham (*Canadian Practitioner and Review*, July—*N. Y. Medical Journal*) thinks that hyoscine is not used so frequently as its merits, in properly selected cases, would justify. The salt commonly employed is the hydrobromide in doses usually of one one-hundreth of a grain. The profession at large is aware that it is used in the asylums for the insane, in maniacal cases, but is not aware of the valuable service it can render in general practice. The author has, within the past five months, used it with marked benefit in several cases widely differing in character, and has been impressed with its good results.

Dr. Fotheringham then gives abstracts of his five cases. The first was that of an old lady of eighty who fell rapidly into a state in which death seemed imminent, very slow and irregular pulse, dry, brown tongue, obstinate wakefulness and night terror, long fits of screaming, with almost total suspension of assimilation and excretion. Hyoscine hydrobromide, one one-hundreth of a grain by mouth in the evening, repeated in two hours when necessary, with another hundreth of a grain in the morning, controlled this cortical activity excellently and promptly whenever given, and in two weeks or so, with nux vomica and proper attention to feeding and excretion, with the occasional use of a mixture containing digitalis, nitroglycerin, and ammonium bromide, she made an excellent recovery. The second case was that of a woman of sixty-seven who developed meningitis on convalescence from pneumonia. The third case was one of mild hysteria in a young married woman. The fourth a case of severe hysteria in a girl about eighteen. The fifth was a case of acute rheumatic exacerbation of an endocarditis, long previously existing, in a young man of about twenty. There were sleeplessness and delirium accompanying circulatory disturbance in the brain.

The author says that cases even so divergent as these do not indicate the whole range of usefulness of the drug. Hare says that it is "certainly of great value in spermatorrhœa and nocturnal emissions." Also that it acts mainly on the cerebrum (he might have said the cortical areas), and that "it is of value as a hypnotic only in a very limited class of cases, but in this class generally acts most favorably." These are cases of insomnia due to acute mania, delirium tremens, hysteria, or similar cause—one might say, perhaps, cases in which there is functional overactivity of the higher centres without undue depression of the vegetative centres; for experience in insane asylums has shown it to be injurious to melancholies, and in general paresis, chronic mania, epilepsy, and dementia it is not better than chloral, but is apt by constant use, at least in some cases, to increase excitement. Peterson (*New York Medical Journal*, October 11, 1890) found it very efficacious in controlling the tremor of paralysis agitans.

Objections to the drug are, first, the uncertainty of its action, a peculiarity common to all drugs the brunt of whose influence falls upon the nervous system. Idiosyncrasy may cause alarming cardiac, respiratory, or spinal depression. Like all drugs from the atropaceæ, it dilates the the pupil, dries up the throat, and if pushed may cause dizziness, delirium, and an erythema of the skin. Some authorities have insisted that it must be given by hypodermic injection, but the writer has seldom so used it, and has been amply satisfied with its action given by the mouth. It may cause croupy breathing, probably from laryngeal dryness, and, in spite of the benefit evident in a case of insomnia from cardiac disease which is detailed, it is usually considered less safe than morphine in such cases.

Note.—In connection with above we consider it appropriate to again repeat that on the authority of the German Pharmacopœia *Scopolamine* and Hyoscine are identical, and that the former name is preferable and more correct.—Editor.

THE PANCREAS IN HEREDITARY SYPHILIS.—Dr. Eugene Schlesinger, in *The Archives for Pathologic Anatomy and Physiology and Clinical Medicine*, No. 3, 1898, draws the following deductions from a study of lesions of the pancreas in victims of hereditary syphilis :

1. The pancreas is less frequently affected than spleen, liver, joints and lungs, but more frequently than thymus, heart, skin, etc.

2. Contrary to reports of earlier observers, the pancreas may be affected as late and as early in fœtal life as any other organ, even before the fifth lunar month.

3. Minute relations between lues of the pancreas and of co-existent lues of other organs are lacking. Only in exceptional cases is the duodenum simultaneously affected, and there exists, then, a connection in the involvement of the pancreas, duodenum and liver.

4. In the diseased pancreas, macroscopically, increase in firmness is first to be detected, then the enlargement. The organ may become of cartilaginous hardness, when the head is almost always more strongly affected than the tail.

5. Not rarely peritoneal adhesions exist between the affected organ and the vicinity.

6. In this disease we have to deal with a pancreatitis chronica diffusa whose stages—often merging into one another—are due to the growth of the interlobular and of the interacinous connective tissue, and finally to the development of intercellular connective tissue.

7. With the atrophy degenerative phenomena are lacking.

8. The growth takes its departure mainly from the blood vessels, rarely from the connective tissue sheath of the ducts.

9. Gummata, whether macroscopic or microscopic, are rare in the pancreas in syphilis neanatorum, as opposed to acquired syphilis.

10. The smaller as well as the larger ducts maintain their integrity relatively late and well. Adenomatous growth on Wirsung's duct was noted once in relatively severe pancreatitis.

11. Early peri and endarteritis of the interlobular vessels, the destruction of the periacinous capillary plexus with the advent of periacinous connective tissue overgrowth, and, in the sclerotic stage, dilatation of the capillaries into lacunae constitute the principal changes on the side of the circulatory apparatus.

12. The intertubular cell masses, that are especially abundant in children as compared with adults, are neither associated with interstitial overgrowth nor with the atrophy of the parenchyma.

THE IRON IN LIVER AND SPLEEN.—Dr. Allessandro Tedeschi, in the "Contributions to Pathologic Anatomy and General Pathology," Vol. III, 1898, reports a large number of experiments as to the iron contained in the liver and spleen of normal and splenectomized rabbits and Guinea pigs. He reaches the following conclusion :

1. For adult animals the liver of the average splenectomized animal contains a much larger quantity of iron.

2. The femur likewise contains in its marrow a much larger quantity.

3. The liver of foetuses contains a markedly greater quantity of iron than that of adult animals. This is especially true of rabbits.

4. The liver of animals immediately after birth contains a greater proportion of iron than that of adults.

5. The liver of young rabbits contains relatively less iron than that of foetuses and more than that of adults.

6. The spleen of young rabbits contains, weight for weight, less iron than that of adults. With the increase in age this organ becomes poorer in iron (sic).

7. The spleen of adult animals, under normal conditions, is the richest organ in iron.

8. The blood of splenectomized animals shows no marked difference from the normal, so far as iron is concerned.

9. The blood of adult Guinea pigs is somewhat richer in iron than that of rabbits.

10. The spleen, liver and femur of Guinea pigs are relatively richer in iron than the corresponding organs of rabbits, even allowing for the greater amount of iron present in the blood of these parts. For liver and femur this rule holds also for splenectomized animals.

To Remove the Odor of Iodoform.—Dr. Edwin Ricketts, of Cincinnati, says: "To do away with the 'smell' of iodoform that comes to the hands of the surgeon for handling it, I find that to rub on, after use of soap and water, a teaspoonful of vinegar (found in every household) does away, promptly, with the very disagreeable odor.—*Lancet-Clinic.*

Imagino-Therapy.—All woman is (clinically) divided into four parts—blood, bowels, pelvic organs and imagination. This is so well known to the profession that a simple statement of truth suffices. The point at present urged is that the fact that an ailment is cured through the imagination does not prove that the ailment is imaginary. This second fact is not as familiar to the profession as the first; some may even be found to dispute it.

Through the imagination (as is well known) the arterioles of a sensitive woman will contract and relax, producing pallor or a becoming blush, according to the theme presented in her thought. In certain states of illness the whole cutaneous surface may flush and burn from the above cause, much to the distress of the patient, whose public life may be rendered miserable thereby.

As the vasomotor nerves of inward organs are probably subject to like impressions through the imagination, it is not unreasonable to suppose that acute or chronic congestive disorders of these organs may be greatly affected by this agency.

It is not wise that imagino-therapeutics, such as the use of hope, fear, expectation of relief, mental exhilaration, wonder, curiosity, should be pooh-poohed by physicions and left to the quacks.—*Maryl. Medical Journal.*

Antistreptococcic Serum in the Treatment of Puerperal Infection.—A committee appointed by the American Gynecological Society has just presented its report, based on a consideration of the literature to date (embracing reports of 352 cases by American and European observers) and their limited and incomplete personal experience. The report, published in the *American Journal of Obstetrics* (September, 1899), is unfavorable. We quote the following summary of the committee's conclusions:

1. A study of the literature shows that 352 cases of puerperal infection have been treated by many observers, with a mortality of 20.74 per cent.; where streptococci were positively demonstrated the mortality was 33 per cent.

2. Marmorek's claim that his antistreptococcic serum will cure streptococcic puerperal infection does not appear to be substantiated by the results thus far reported.

3. Experimental work has cast grave doubts upon the efficiency of antistreptococcic serum in clinical work, by showing that a serum which is obtained from a given streptococcus may protect an animal from that organism, but may be absolutely inefficient against another streptococcus, and that the number of serums which may be prepared is limited only by the number of varieties of streptococci which may exist.

4. Thus far the only definite result of Marmorek's work is the development of a method by which we can increase the virulence of certain streptococci to an almost inconceivable extent, so that one hundred billionth of a cubic centimetre of a culture will kill a rabbit.

5. The personal experience of your committee has shown that the mortality

of streptococcus endometritis, if not interfered with, is something less than five per cent., and that such cases tend to recover if nature's work is not undone by too energetic local treatment.

6. We unhesitatingly condemn curettage and total hysterectomy in streptococcus infections after full-term delivery, and attribute a large part of the excessive mortality in the literature to the former operation.

7. In puerperal infections a portion of the uterine lochia should be removed by Döderlein's tube for bacteriological examination, and an intrauterine douche of four to five litres of sterile salt solution given just afterward. If the infection be due to streptococci the uterus should not be touched again, and the patient be given very large doses of strychnia and alcohol if necessary. If the infection be due to other organisms repeated douchings and even curettage may be advisable.

8. If the infection extends toward the peritoneal cavity, and in gravely septicemic cases, Pryor's method of isolating the uterus by packing the pelvis with iodoform gauze may be of service.

9. The experience of one of the members of the committee with antistreptococcus serum has shown that it has no deleterious effect upon the patient, and therefore may be tried if desired. But we find nothing in the clinical or experimental literature or in our own experience to indicate that its employment will materially improve the general results in the treatment of streptococcus puerperal infection.

Antipyrin in the Treatment of Chorea.—This treatment was first urged by Eskridge, says the St. Louis *Medical Review* editorially, and it has met with a considerable degree of success. His method of giving it was to begin with a dose of one grain for each year of the child's age. This was to be increased a grain each day until the movements ceased. In severe cases the child was kept in bed, and in those less marked it was allowed to be about for part of the day. After the movements ceased the antipyrin was suspended and iron or arsenic or both substituted. Antipyrin used in this way undoubtedly gives a large proportion of successes, but it is to be remembered that this is true of any form of treatment, as mild cases naturally tend toward recovery. It is difficult to say whether this form of treatment would cure in a less time than that by simple arsenic or other method of treatment; in other words, does it have any distinct advantages? Only a prolonged statistic study of a large number of cases would enable us to say positively that it did. There is no question that it and the arsenic treatment, and possibly the quinine treatment, somewhat lessens the duration of the disease, particularly if it is combined with rest and such hygienic and dietetic measures as tend to the building up of the general nervous system.

Salycylic Acid in the Treatment of Pneumonia.—Dr. W. C. Sebring (*N. Y. Med. Record*) believes that the results of the administration of the salicylate are these:

1. In the beginning of an attack it quickly quiets the tumultuous pulse.

2. It acts as a sedative to the general nervous excitement that is prevalent through that period; indeed, it seems to act as an hypnotic all through the course of the disease in many instances, as a fair proportion of the patients have slept a major part of the time until recovery had become well established.

3. It almost surely and quickly gives relief from the pleuritic pains.

4. It seems to inhibit the manifestation of malign mental symptoms. Thus far none of the patients have developed the least delirium after beginning to take the drug, except the first, and five cases of drunkard's pneumonia, in which the delirium preceded the disease.

5. The pulse remained full and not over-rapid to the end, except in one case;

cardiac symptoms due to the disease itself have been unnoticed, and symptoms of a "tired heart" do not often occur.

6. After the first few doses of the drug the patient will perspire freely, as long as the diseased condition of the lung persists, but either from this cause, or from some other that the author is not cognizant of, the temperature seldom exceeds 103° F.

7. The cases will show a far smaller percentage of complications than is usual.

8. In nineteen out of twenty cases the disease will subside by lycis.

9. The length of time required for recovery is less than is the rule with patients that recover under the usual treatment and by lycis.

10. The infected lung tissue progresses to resolution more slowly than it does with the average case, though complete recovery from an attack—that is, return to normal health—is more expeditious. — *Cincinnati Lancet-Clinic.*

Tropon, says Dr. Max Heim, in *Therapeutische Monatshefte*, Sept., 1899, is well borne in infectious diseases and high feverish conditions, without disturbing stomach or intestinal functions. Even large quantities do not disturb digestion, and it continues palatable even after long-continued use, while it nourishes the patient exceedingly.

Thyroid Extract in Defective Children. —There is no more brilliant chapter in therapeutics, thinks the editor of the *Medical Review*, than that which deals with the treatment of cretins. The term cretin is applied to idiocy associated with goitre or enlargement of the thyroid glands. A later extension of the term applies it to those cases in which there is an appreciable atrophy of the gland. The relation of disorders of the thyroid to developed mental defects in children is so important that every case should be carefully investigated. Unfortunately, the means by which a diagnosis is made, the difference between cretinism and other forms of idiocy, is by no means clear, and oftentimes it is impossible to make an accurate distinction. In all such cases it will be wise to give thyroid extract, as it is found to improve the nutrition and mental development of many defective children, even though their troubles cannot be directly traced to anomalies of the thyroid, and they cannot be clinically classed as cretins.

The thyroids should be given in the dessicated form, a fresh preparation invariably employed, and preferably in the form of capsules rather than tablets. The latter contain more than three-fifths their weight of excipient, and if strongly compressed, or if kept in stock for a considerable time, may be so hard as to pass the alimentary tract without solution. The dessicated thyroid, given in capsules, is readily absorbed and exercises its full physiologic activity promptly after its administration. In the best preparation, one grain of the dessicated product equals about eight grains of the fresh gland stripped of its envelopes. The dose should be about two grains for a child from three to five years of age, repeated twice each day. So far as we know, the substance is devoid of deleterious effects, though its administration must be watched to see that it is not carried to the point of disturbing the heart's action.

Bronchitis:

℞ Terpinol, Sodii benzoatis ää.....gr. ii
Sant. Albi.....q. s. et ft. pil. No. 1.
Sig. Take six to twelve per day.

—*Boston M. and S. Journal.*

Hay Fever.—In the treatment of hay fever two new drugs promise well—orthoform and suprarenal capsule. Orthoform will allay the sensitiveness, the hyperæsthesia, and the paroxysmal sneezing. Its effects are in duration many times longer than those of cocaine, and it has no toxic action. When we wish to give the patient free breathing through the nose and lessen the serous discharge the use of a solution of suprarenal capsule will accomplish the desired result without the disadvantages of cocaine.—Dr. Edward W. Wright, *New York Medical Journal*, May 6th.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

HAY FEVER.

DISCUSSION BEFORE THE LOUISVILLE CLINICAL SOCIETY.*

Dr. W. F. Boggess:—This is a subject with which the general practitioner has to deal possibly as frequently as the specialist. The specialist depends upon the general practitioner for most of his cases of hay fever. The only remedy I have found of benefit in the treatment of this condition is a twenty-five to fifty per cent. solution of chromic acid.

This application is rather severe, but I have used it in a number of cases with immediate relief. I have frequently aborted the disease by means of chromic acid. The application of chromic acid destroys the hypersensitiveness of the mucous membrane of the nose, lessening the effect of the pollen, and relief is prompt.

Dr. Wm. Cheatham:—We look upon hay fever as a neurosis principally. There are three factors in its production, viz.: pollen, some nasal trouble, and a run down nervous condition, and if the physician can relieve any one of the three conditions he can cure hay fever. Not long ago Seth Bishop, of Chicago, advanced the theory that the pathology of the disease was due to uric acid, that most of his patients were gouty. He corrects the uric acid diathesis and relieves the hay fever.

My treatment of hay fever depends upon what I believe to be the etiology, pathology, etc. If I find there is nasal stenosis from polyps, bone spurs, or what is known as engorgement of the turbinated tissue, I relieve that. I cannot say that I have seen many cases relieved permanently by nasal treatment; it helps very much; fifty per cent. solution of chromic acid I believe to be the best local application. Cocaine is also effective, but there is always danger of the formation of the cocaine habit. I have known this to occur in the case of two prominent people in this city. I have gotten so now that I write on the prescription for cocaine, "No Re-Fill;" some druggists observe it and some do not. I disguise the name cocaine on the prescription so that the patient will not know what he is taking; I believe not to do so is dangerous, as the cocaine habit is about as serious as the opium habit. I use cocaine occasionally in the treatment of hay fever, but not in water, as it does little good when used in that way. You can take a vaseline cerate and make a solution one-quarter as strong as you would make a water solution, and it will do more good; it will remain longer, so it will not have to be repeated so often. Cocaine is double in its effect; it acts as a local anesthetic and also shrinks the tissues.

In treating hay fever I always have in mind the uric acid diathesis. I put the patient on tonics, iron, strychnine, hypophosphites, etc. Locally I first cocainize the parts thoroughly, then make application of a 25 to 50 per cent. solution of chromic acid; this gives the patient a great deal of discomfort, and for one or two days he feels worse than before the treatment, but I have never failed to relieve hay fever by this method. I remember some time ago a patient came here

* Contributed exclusively to the AMERICAN THERAPIST.

from Alabama suffering intensely from hay fever, and I made application as stated of cocaine followed by chromic acid. The patient said he never suffered so much in his life as he did during the next two days, but after that he passed the season in comparative comfort.

My management of hay fever has about narrowed down to constitutional treatment, after removing any nasal obstruction, and the application of cocaine and chromic acid to the nose.

Dr. T. C. Evans:—In my experience in the treatment of hay fever I have gotten very little relief from local applications except that derived from the use of cocaine. As I have stated on a previous occasion before this society, there is nothing that is more exaggerated than the cocaine habit. There are very few people who have had this habit, and most of the cases so reported are purely "newspaper habits." I know of but one case of cocaine habit, and am not sure but the man had already become addicted to the use of morphine. In the majority of cases where the cocaine habit is formed, it is simply a change from either whiskey or morphine; the cocaine habit "straight" is extremely rare.

As to the application of galvano-cautery in the treatment of hay fever, I seldom use it any more, and do not believe it is indicated. I use locally chromic acid. Where there is a simple turgescence of the turbinated bodies the galvano-cautery acts very well, but in hay fever the reaction is marked and the patient suffers much discomfort from its use. My favorite for local application is a combination of menthol, cocaine and vaseline or some of the other petroleum products.

Dr. W. H. Wathen:—If Drs. Evans and Coomes are able to make a correct diagnosis, I had a very persistent case of hay fever, not lasting through a short season, but for two years, it having been contracted on my return from Washington three years ago from exposure to currents of air in cold weather. The trouble was worse at night, and for two years I was unable to sleep over four or five hours each night, but for the last year I have been entirely relieved and have had no symptom of a return. The nasal obstruction was constantly such that I could not breathe through either nostril, and I was made more disagreeable because I have a deflected septum, the result of an injury many years ago. I was treated by Drs. Evans and Coomes, the nasal membrane was thoroughly cocainized, galvano cautery was applied, etc., and I must say that no relief was obtained from this treatment; in fact, the trouble was made worse, and it required several days to get relief from the irritation caused by this method of treatment. Every local application that has been mentioned tonight was used in ointments and liquids applied by cotton wrapped on a probe or sprays, but nothing gave more than temporary relief. Cocaine, at first, would for a short time give relief when applied locally, but the trouble soon returned and in an hour was as bad or worse than before the application. In addition to this, cocaine had such a disagreeable effect upon my nervous system that it had to be discontinued; it prevented sleep and produced other disagreeable effects. I thought perhaps the solution was too strong, therefore reduced it one-half of one per cent., but even this produced such symptoms of discomfort that its use had to be discontinued. If cocaine affects everybody as it does me, the cocaine habit is a thing which would be utterly impossible.

I took strychnine hypodermatically, and probably this is one of the drugs that helped to give relief. But stychnine began to show its effects upon the lower part of the spinal cord and had to be discontinued.

I believe the remedy that relieved me was atropia; it was used hypodermatically in doses of $^1/_{600}$ of a grain. It was very disagreeable, but it would cause the membrane of the nose to shrink and give me

from six to ten hours' comfort, when the dose would have to be repeated. Atropia was about as disagreeable as the other drugs mentioned, and had it not been for the relief thereby obtained its use would have been abandoned. I began to improve as soon as atropia was commenced, and my recovery has been complete; no symptom of the disease has been observed for over a year.

I do not believe from my experience with cocaine that it ever has any curative effect in the treatment of hay fever, nor do I believe that any local applications do good. Of all the local applications that I made, alternating from one to another, none had any beneficial effect; on the other hand, I believe the trouble was made worse.

While it is true some people may acquire the cocaine habit, based upon my own experience I can imagine nothing more disagreeable than its use.

Caution in Cocaine Anesthesia.—When giving cocaine (Dr. Heineck in *Medical Standard*) always have some aromatic spirits of ammonia, some nitrate of amyl and some ether at hand. These are useful agents with which to combat cocaine intoxication. Upon the first appearance of symptoms of poisoning, have (*a*) patient immediately assume the recumbent posture; recovery takes place more rapidly in this position; (*b*) give hypodermic injections of ether.—*Maryland Medical Journal.*

Local Applications in Acute Rheumatism.—A recent issue of the *Journ. A. M. A.*, contains this formula:

℞	Ac. salicylici.....	25
	Olei terebinthinae.....	25
	Lanolini.....āā ℥iv.	25
	Adipis.....ℨij.	100

To be applied to joints and covered with non-absorbent cotton and guttapercha tissue.

We doubt whether any topical application is superior to plain oil of wintergreen, which is mainly methyl salicylate.

*SUBCONJUNCTIVAL INJECTIONS IN INTERSTITIAL KERATITIS.**

By A. W. Smyth, M.D., Louisville, Kentucky.

Dr. Ray asked this boy to come before the meeting to-night as an illustration of a method of treatment of interstitial keratitis which was also referred to in a paper written by myself and read before a recent meeting of this society.

As a comparison I will mention two cases: one, this boy, aged twenty-two, whs first presented himself for treatment February 15, 1899. He had the trouble for a month previous to that. He was started on subconjunctival injections. The first visit he was given an injection in one eye only, and at the second visit, five days later, he was given an injection in each eye. Bichloride of mercury was used. At that time he said that for a couple of hours after the injection in both eyes he had considerable pain, but after that the remainder of the day he only had a slight headache, which passed off. The remaining injections, three or four, were made with a two-per-cent. saline solution and he complained of no pain whatever, and was always willing to have the injections practised.

The treatment covered a period of a month, each time allowing the irritation to subside. At the end of this time the eyes had cleared up sufficiently to discontinue the injections, and he was then given a salve and some drops. Improvement has been very marked, and you will observe what his condition is to-night. When he presented for treatment he had great pain, was unable to open his eyes, and had a considerable amount of corneal opacity involving almost the entire cornea.

Case 2. In contradistinction to this case the following may be of interest: A little girl aged nine years presented herself for treatment first in November, 1898, three months previous to the time the

*Reported to the Louisville Ophthalmological and Otologicol Sociéty, and contributed exclusively to the American Therapist.

other case applied. She had had the trouble for seven weeks. She also had a marked case. The two cases were about equal when they presented for treatment. She was treated according to the regular lines of approved treatment, being too young for subconjunctival injections. She was given atropine, yellow oxide of mercury and iron. To-day she is not in as good condition as the boy before you. She has been under treatment three months longer than the boy, and yet her condition is not nearly so favorable. The boy's cornea has cleared up considerably and he is in far better condition than the little girl.

These two cases are mentioned simply to contrast the two methods of treatment.

Discussion.

Dr. William Cheatham :—The report is interesting, but it must be remembered that two cases do not prove much. I would be willing to indorse the treatment, but two cases do not demonstrate anything, there are so many other causes that may have had something to do with it; this boy is older, has more power of resistance, etc.—all these things have to be taken into consideration. I am glad Doctor Smyth has made the report, and hope he will continue his investigations and present a larger number of cases. The medical journals have had considerable to say recently upon the subject. In the cases where I have used injectiohs I believe a little pilocarpine has added to the result.

Dr. T. E. Converse :—I remember that Doctor Smyth read an interesting paper on this subject about two months ago. A few days afterwards I saw a colored boy, sixteen years of age, at the clinic, and I thought it would be a good case in which to try the injections. I gave him one injection of bichloride, but the pain therefrom was so severe that he refused to submit to further injections of the bichloride. Pain from the injection of saline solution was very slight, and I then combined bichloride with the salt solution. I afterwards gave the boy six or seven injections three or four days apart and his eyes have now almost cleared up. The boy was otherwise in good health, worked every day, and the opacities were not very dense over the cornea. In one eye the opacity was over the lower portion of the pupil and in the other eye over the lower portion and to one side, so that the sight was blurred in both eyes. He has improved so markedly now that it takes an oblique illumination to show the opacities. He does not complain of any impairment of vision. In this case I injected the fluid some distance back of the cornea; it seemed to be absorbed almost immediately. I would inject sometimes as much as five or ten minims of the solution at at one time.

Dr. John Hazlewood :—I have never tried the injection plan of treatment. The cases I have had have always been treated with mercury and iodide of potassium, and they have all seemed to get along fairly well. In some cases it has taken a year or more for the patients to get well.

Dr. A. W. Smyth :—I merely presented the two cases to bring before the society as a comparison two cases that had been treated, one by the injection plan, the other by the regular routine methods, in order that the difference in the results might be seen.

Suprarenal Extract in Ophthalmology. —Dr. A. G. Aldrich, of Minneapolis, recommends the following preparation of suprarenal extract in ophthalmologic practice :

℞	Suprarenal Ext.....	grs. x.
	Acid boric.....	grs. x.
	Aquae (sterilized).....	ʒ i.

Fiat Mist. Filter.

The Caustic Effect of Carbolic Acid.— It is said (*Medical Dial*) that when the application of carbolic acid to the skin is followed within a few seconds by the application of alcohol, the caustic effect of the former is prevented. The same is true if alum, or any soluble sulphate is used.

ACUTE TONSILLITIS IN AN INFANT OF FIVE MONTHS:

A Second Attack, Eleven Months Later.*

By T. G. Brownson, M.D., Chicago, Ill.

While cases of tonsilitis have been reported as occurring in early infancy, it is sufficiently rare to warrant the reporting of the following case: The infant was a little more than five months old. It was breast-fed and had been previously well. On March 14, 1898, it suddenly became feverish and refused to nurse. I was summoned and found the child hot and flushed. It cried frequently and the voice seemed a little husky. There were no other symptoms. There was no cough nor vomiting, nor any signs of indigestion. The child made attempts at nursing, but would immediately stop, as if swallowing caused pain. Examination revealed no disease in the chest or digestive organs. Examination of the throat showed typical signs of tonsilitis, namely: tonsils red and swollen, and on each several round white spots. The child seemed very sick and on the next day was more so. The attack ran the ordinary course and subsided.

The child rapidly became pale during the attack and was left very anæmic. Its color had not been particularly good before. It was fretful and did not nurse as well as usual. After several days, as the color did not improve, I prescribed syrup of iodide of iron, but the child vomited it. I then prescribed pepto-mangan in five-drop doses, four times a day. This the child took without trouble and soon seemed to feel better. The color begun to improve and after three weeks the child was in better condition than before the sickness.

The child continued to be quite well until February 6, 1899, when it was again seized with the same symptoms and passed through another attack of tonsillitis. This attack was also followed by anæmia, and the same treatment was given, under which the color and general health soon improved. While cases equally young have been reported, two attacks of tonsillitis in a child so young are certainly rare.

* From *Archives of Pediatrics*, August, 1899.

*DO WE NEED IODOFORM?**

By F. A. Dunsmore, M.D.,
Professor of Operative and Clinical Surgery, University of Minnesota, Minneapolis, Minn.

The tendency to follow beaten paths, rather than act upon reason, is not new in surgery. Iodoform is not a germicide, yet it is more often used in the form of gauze dressing for pus cavities or septic wounds than any of the so-called antiseptics or germicides. It has the most disagreeable and lasting odor of any surgical drug, yet displaces more elegant, cheaper and effective remedies, devoid of odor. It is poisonous and frequently irritating to a sensitive skin; yet, patients must submit to its application, while the supply houses offer a large list of bland and non-poisonous remedies for local dressings.

To the credit of iodoform, however, it can be said that it lessens the power of certain microbes by liberating free iodine upon direct contact. Mixed with glycerine, forming an emulsion of 10 to 20 per cent., it has been extensively used for injections into tuberculous foci, and many surgeons have vaunted its value when so used between joint surfaces. The writer knows that in such cases it fails four times as often as it cures. I do not mean it fails for simple joint effusions where any incision or aspiration produces a cure; but where there is undoubted tuberculosis of joint cartilages then I am certain that iodoform does not, in itself, cure the tuberculosis.

The chief claim for its value has grown out of the use of iodoform gauze for dressings within the vagina, bladder, rectum or mouth, and, in a lesser way, for tem-

* From *The Medical Dial.*

porary use in cases of purulent appendicitis, and where large abraded surfaces present examples of continued parenchymatous hemorrhage.

Having said this much, what more can be added as a reason for the continued use of a drug, clinically and chemically inefficient, poisonous, disgusting, irritating, and having superior remedies as successors for each place where iodoform has been used? If it were not for this last statement this brief article would not have been written.

For dusting lines of union in sutured wounds boric acid is vastly superior, is an efficient germicide, and may also be as safely used in the form of gauze for all places where iodoform has been a favorite, save for the control of hemorrhages, when acctanilid should be used. Aristol, dermatol, or iodol may be used for covering wounds, if preferred to boric acid.

*A NOTE ON ARECOLINE.**

By J. C. Clemesha, M.D., M. R. C. S., Eng., L. R. C. P., London.

Assistant Surgeon Buffalo Eye and Ear Infirmary, Ophthalmic Surgeon to the Buffalo Hospital of the Sisters of Charity.

Arecoline is one of the alkaloids found in the areca nut, the seeds of of the areca catechu. Taken internally it causes vomiting and diarrhea, and will be found useful in obstinate constipation from its action on the contractility of the intestine.

According to Frohner, arecoline is a sialagogue of the first rank, which is not only comparable to pilocarpine, but even exceeds it. Salivation occurs in about five minutes after its injection and attains its maximum in half an hour. Martin employed this drug as a teniafuge, using sixty grains of the powdered areca nut to obtain the desired effect, and he observed the absence of colic.

The bromohydrate of arecoline is a white crystalline soluble salt, and when applied to the eye in the form of a one-half or one-per-cent. aqueous solution, causes contraction of the pupil. A one-half-per-cent. solution dropped into the conjunctival sac causes burning and slight conjunctival congestion. In from three to five minutes the pupil begins to contract and reaches its maximum in from ten to fifteen minutes, accompanied by spasm of the ciliary muscle. The maximum effect remains for a quarter of an hour or so, after which the pupil gradually returns to its normal condition. This is usually in the course of an hour or two.

The tension of the normal eye does not seem to be affected by it, but in cases of glaucoma, clinical results show this drug to be the equal of eserine.

Bietti observed that it appeared to act more promptly and more energetically than eserine, but that its effect wss of shorter duration.

Finally, it keeps well in solution, retaining its active properties unchanged for an unlimited period.

*From *Buffalo Medical Journal.*

Clinical Uses of Liquid Air.—Dr. Pearce reports his observations of the use of liquid air for the removal of skin lesions and the relief of pain in various forms of neuralgia. His article is based upon the experiments of Dr. A. Campbell White, in Dr. Lusk's dermatologic clinic, and that of Dr. Geo. H. Fox. Operations are performed under liquid air anesthesia, without pain or injury to surrounding tissues, by the air spray used. The application produces a slight tingling sensation only when it is first applied. It appears to be a specific in all forms of neuralgias.

No return of symptoms have been noted. Herpes, zoster, pain and lesions, cured by application to spinal ends of nerves. Illustrations are given of the application of liquid air in the treatment of erythematous lupus, and in cauterizing epithelioma and nevus.

He reports the successful treatment of carbuncles, buboes, erysipelas, multiple phagadenic chancroids, varicose ulcers, with this new and mysterious remedial agent.—*Columbus Medical Journal.*

AN EXTERNAL APPLICATION IN SCARLET FEVER,

To Shorten the Period of Disquamation and Diminish the Danger from It.*

By Francis H. Williams, M.D., Boston.

It is thought that scarlet fever is disseminated in part by means of the epithelium which is shed during desquamation. To prevent the spread of the scales during this time an application should be made to the skin, and we can choose one that combines several qualities. It should be harmless to the patient, sticky enough to diminish the mechanical dissemination of the peeled skin and yet promote its removal and hasten the return of this organ to a healthy condition, and also have some germicidal properties. I have found glycerin mixed with hydrogen-dioxide solution containing a little free hydrochloric acid, which latter contributes germicidal properties to the mixture, to answer this purpose; one part glycerin to seven parts of a ten-volume hydrogen-dioxide solution. If the amount of hydrochloric or nitric acid in the dioxide solution is very small more may be added, but if the solution contains one-twentieth to one-tenth of one per cent. it will probably have considerable germicidal action if in contact with the scales for some time.†

Several years ago, in the scarlet-fever wards of the Boston City Hospital, I demonstrated that the period of desquamation could be shortened by the use of this mixture. The method which I used may be briefly described by quoting from a paper which I published in the *American Journal of the Medical Sciences*, August, 1895:

"In scarlet fever it seems to me desirable to prevent the dissemination of the epithelial scales which are often shed abundantly, and to hasten the removal of the layer of epithelium in order to free the normal skin. For this purpose I have the patient rubbed all over daily—avoiding the hair—with a mixture containing seven parts of ten-volume hydrogen-dioxide solution and one part of glycerin; if the patient finds this too sticky, the proportion of glycerin may be reduced. A quarter of the body may be done at a time, and some hours later another quarter, and so on. As soon as any portion of the skin is normal the application may be there dispensed with."

The average length of the period of desquamation may be reduced if this treatment is properly carried out. To shorten this period is desirable in private practice and in a hospital it has a money value. Take, for example, 1,000 cases; if this treatment will shorten the stay of the patients only three days (I found the average more than this) we have a total of 3,000 days, or eight years, saved.

* From *The Boston Medical and Surgical Journal*, Sept. 14, 1899.

† It should not be brought in contact with colored fabrics.

*THE USE AND ABUSE OF THE DOUCHE.**

By D. Braden Kyle, M.D.,
Clinical Professor of Laryngology, Jefferson Medical College, Philadelphia.

In the treatment of diseases of the nasal mucuous membrane, it is frequently necessary to employ solutions for the purpose of freeing the surface of retained secretion. This solution can be best applied by means of an atomizer or douche.

The solution used may be considered from two standpoints: First, that of cleansing; and, second, for the local therapeutic action of the cleansing solution.

The indications for the use of the douche are determined by the character of the secretion, irregularities within the nasal chambers, and whether the process is an acute or chronic one. The nasal irregularity is often more of a contra-indication than an indication. If the irregularity is

* From the *International Medical Magazine.*

so located as to direct the flow or current of the cleansing solution toward the orifice of the Eustachian tube, by suction due to forcible inhalation on the part of the patient, the fluid will most certainly be drawn up into the tube. In some individual cases I think some of the bad effects charged to the catarrhal inflammation are really due to the irritating effect of the solution used. In all cases the patient should be instructed to allow the cleansing solution to flow through the nasal cavity, and under no circumstances to use suction.

Another point in the use of the douche I think is often overlooked. The patient usually permits the cleansing solution to flow through the nostril for a few moments, then attempts to clear the nostril by forcibly blowing the nose before the cleansing solution has had sufficient time to moisten and soften the retained secretion. The irritation produced by this forcible blowing aggravates the condition. The patient should be warned on this point, and the blowing of the nose be forbidden for ten or fifteen minutes after the use of the cleansing solution. By that time the stimulating action caused by the passing of the solution over the mucous membrane will have increased the flow of mucus, and that, combined with the use of the douche, will soften the retained secretion and render its removal comparatively easy.

Frequently much harm is done by the patient using too much of the fluid. The passing of so much fluid over the membrane while cleansing it, acts as an irritant and causes the very irritation you are seeking to relieve. The temperature of the fluid used varies with individuals, but the fluid should be as warm as can be comfortably borne by the patient. The delicate mucous membrane of the nose, in its normal condition, requires no douche, and frequently where the inflamed area is a localized one and the douche is ordered, its irritating effect on the surrounding healthy membrane is sufficient to produce and keep up a continued inflammation in that otherwise healthy structure. This brings up the question of length of time the douche should be used. As to time, no definite rule can be given, but this one point must be remembered—that if the douche is used too long or the solution used is too irritating, it will keep up and aggravate the very condition you are trying to relieve. I do not believe in the use of strong solutions as a douche, and it is a good plan at least every ten days or two weeks to discontinue the douche for at least four or five days, which will determine whether or not any irritation is being kept up by its use.

If the patient complains of a marked irritation, after the use of the douche, of headache, pain in the ears and a general sensation of having taken cold, *stop the douche at once.*

Of the alkaline, slightly detergent and dissolvent solutions, I know of none better than

℞ Sodii bicarbonatis,
Sodii biboratis,
Sodii chloratis,
Potassii bicarbonatis.....aa gr. vi
Aquae distillatae..... fl. ʒj

Another admirable solution, which will allay irritation, is:

℞ Extracti hamamelidis (aqueous),
Aquae distillatae..... aa

*SUPRARENAL EXTRACT IN THE TREATMENT OF ADDISON'S DISEASE.**

By R. Alexander Bate, A.B., M.D., of Louisville, Ky.

This case was reported at the Louisville Society of Medicine, and referred to in a paper upon Animal Extracts read before this society at Maysville.

The following history is taken from the notes of the case made about two years ago, when the patient first came under

* Read before the Kentucky State Medical Society. May, 1899. From the *American Practioner and News.*

observation. Mr. C., aged fifty-four years; occupation, teamster; family history good with the exception of one child suffering from epilepsy. Upon physical examination it was observed that the skin of body and limbs was of a lemon yellow color, face and hands dark bronze, mucous membranes of the mouth and conjunctivae brownish red, and the hair was black; there was tenderness over the epigastric and lumbar regions; both kidneys were elongated and tender; there was also epigastric pulsation due to a cylindrical aneurism of the abdominal aorta.

There was a history of continuous epigastric and lumbar pain, and occasional aching in the joints and frequent spells of faintness without loss of consciousness, enfeebled strength with constant weariness. Diarrhea would occur without any assignable cause, and would be very persistent in its course; there was nausea at times, and the mouth constantly filled with slime.

Pains extending from the epigastric region downward over both iliac arteries and upward and especially toward the left arm were considered dependent upon the aneurism.

The urine was voided frequently; color, bright red; of acid reaction; containing uric acid in proportion to urea of 1–43; also uroerythrin, melanin, biliary coloring matters, and indican in excess. In this case the aneurism has been recognized for the remarkable period of thirty-five years.*

At the age of fourteen the patient felt something give way in the abdomen while straining to save his father from being crushed by a log. In addition to the aneurism there is a history of traumatic injury having occurred about twenty-six or twenty-seven years ago that caused depression of the sternum just above the xiphoid cartilage.

The pathology of the morbus Addisonii is still very uncertain, but in this case it is susceptible of but two explanations. Either the blow causing depression of the sternum deranged the semi-lunar ganglia, at least the suprarenal plexus, interfering with the action of the sympathetic, which is tonic to the blood-vessel walls, causing rhythmical contraction, and would thus permit dilatation of the vessels with consequent congestion of the suprarenal bodies, or the aneurism may not only act in this same way, but can press directly at least upon the left adrenal. Thus both functional and morbid changes in the suprarenal glands can be understood. So that the symptoms of Addison's disease can be seen to occur from a deficiency of suprarenal principle in the system, no matter whether the glandular inadequacy is dependent upon functional or morbid changes.

Consequently upon isopathic principles this patient was put upon the suprarenal extract, and a prognosis favorable concerning the Addison's disease was given.

One twelfth of a grain of the extract of suprarenal glands of sheep was administered three times daily. This has been kept up more or less constantly ever since, and for the past year the patient has been able to earn his living at his usual occupation. The asthenia, nausea, dizziness, faintness and pigmentation have almost entirely disappeared.

The pains produced by the aneurism of course still remain, though somewhat lessened, most likely from potassium iodide, which was administered for that purpose.

Upon two occasions when the suprarenal extract could not be obtained within ten days attacks amounting almost to syncope occurred, there were cold, clammy sweats and muscular twitching followed by slight fever and a bounding pulse, averaging about ninety beats per minute, and there was a general feeling of approaching dissolution. The extract has apparently been almost specific in this case. Of course, should the medication be discontinued the symptoms will

* Dr. Kalfus, now deceased, diagnosed aneurism in 1864.

return, since we have simply supplied artificially that which is normally secreted.

This drug should be as nearly specific in exophthalmic goiter as in Addison's disease, since it is the true antidote to thyroid extract; it is indicated in all conditions attended by loss of muscular power, probably in the same cardiac derangements in which digitalis is used, in subnormal temperature associated with asthenia, in anemia and melanemia, in neurasthenia and conditions requiring vasomotor stimulants.

At the risk of being tedious this case is again brought before the society, believing the results obtained justify repeated efforts to extend the use of this most valuable agent so generally viewed askance.

In the course of the discussion following the reading of preceding paper, Dr. Thomas H. Stucky added:

I am thoroughly familiar with this case, and I want to most heartily approve of the results obtained by the essayist, and to compliment him upon these good results. The question that concerns us most in the management of cases of this type is an established value of the animal extracts in these various organic deficiencies. Those of us in general practice who have had to deal with the patient after leaving the surgeon for double oöphorectomy have all experienced in this neurasthenic type, which frequently follows, the wonderful value of the ovarian extract in controlment of this condition of neurasthenia. We also have been able to observe the benefits of the testicular as well as the thyroid extracts. My experience in the use of suprarenal extract has been limited to only two cases. In both cases I believe the deduction may be safely made that the extract has been of marked therapeutic value. Whether this is due to the supplying of a deficiency or not I am not prepared to say, but I am am prepared to say that in the vast majority of cases, where the animal extracts are used and there is a deficiency in the secretion of the organ for which they are used, that there is an established physiological benefit. I believe the therapy of the future largely lies in the enhancement of the use of the animal extracts in a field far larger than that which they now occupy. I believe this case had an aneurism, and that it was fusiform in character. You all recognize the factors, excluding traumatism, that play such an important part in the production of aneurisms. Whether there is a history that would be of importance we do not know, but it seems that this thing, in which we have heretofore obtained such miserable results, is going to yield to modern therapy.

A Mechanic Laxative.—Despite the multitude of drugs and other therapeutic means of relieving constipation, says the editor of the *Cleveland Journal of Medicine*, there remains a demand for a laxative which will cause a normal movement of the bowels without the objectionable systemic effects of the majority of drugs used for this purpose, particularly as the so-called laxative foods are all irritants, and the cannon-ball is neither pleasant to use nor invariably effective. Dr. Henry S. Upson (*Philadelphia Medical Journal*, July 22, 1899) comes to the rescue with the suggestion and report of successful experience with the administration by the mouth of white liquid petrolatum in doses of two or three ounces—a quarter to a half tumblerful. Unlike the vegetable oils, liquid petrolatum does not become rancid either within or without the body. It soothes the entire mucous membrane of the bowel, is absolutely non-irritant, does not distend the bowel, and diminishes flatulence. Such a report from competent hands warrants extended trial of the remedy. Naturally a drug habit is hardly expected to arise with this laxative as with so many others of the class. It is said that patients readily become tolerant of the taste or rather lack of taste of this oil.

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Dr. A. L. BENEDICT,

of Buffalo, N. Y., will assume editorial charge of THE AMERICAN THERAPIST with the next issue. He will be assisted by the same staff and management heretofore identified with this journal.

There will be no change of policy ; only an increased working force, which, we are certain, will enhance the value of this journal to its readers.

Editorial.

THE PHARMACOPOEIA.

Less than a year remains before the decennial revision of the United States Pharmacopoeia will be well in hand. The time is ripe for the presentation of editorial and personal views in such form that, from them, the revisional board may have a clear conception of the wishes of the medical profession, which they should mainly represent. It is not proper to point out editorially such details as might appropriately be given in a personal article, yet it may be well to call attention to a few general principles which must govern the work.

It has been said, in the way of censure, by some of our noted therapeutists, that the medical profession as a whole do not buy and certainly do not read the Pharmacopoeia. Such a criticism depends on a mistaken conception of the function of a Pharmacopoeia. Few householders read or have access to the codified statutes; few possess certified measures of length, capacity or weight; few read the dictionary, of course ; but this does not signify that they are not disposed to be law-abiding, that their commercial transactions are based on uncertain units, nor that their speech is necessarily corrupt. The Pharmacopoeia is, so to speak, the yard stick of materia medica ; its standards should be rigidly enforced, but it is beyond its proper province to attempt to popularize it or to render it the *vade mecum* of the average practitioner. Its details must depend largely on the skill and experience of the pharmacal profession, and upon the knowledge of pharmacology possessed by direct investigation by but few of our number. It should ever be kept in mind that the Pharmacopoeia is a work on materia medica, not on therapeutics; that it is an authorized list of drugs, not a treatise.

If this point be kept well in mind the problems as to the advisability of including a dose-list, of appending a synopsis of physiologic action, of adding a detailed description of new drugs or other proposed innovations, may be better considered. It is obvious that such matters as therapeutics, toxicology, physiologic action, chemistry, botany, etc., cannot be throughly treated without increasing the Pharmacopoeia to cyclopedic dimensions and losing sight of its prime function. The inclusion of a description of "new" —that is, unfamiliar—drugs seems to us particularly ill-advised, since it involves the paradox of committing the standard authority, and almost the legal code of the medical and pharmacal professions, to statements that must necessarily be incomplete and often erroneous. While the inclusion of doses would be a convenience and would add little to the size of the volume, the utmost care in the way of qualification and explanation should be taken lest such a list be used against the profession of medicine in medico-legal cases growing out of unpleasant effects due to idiosycrasy in regard to drugs.

We are inclined to the opinion that it would be a mistake to attempt to widen the function of the Pharmacopoeia, though it may well be modified to perform its function more completely. So far as possible all statements should be generalized and each preparation should apply to all drugs to which it is applicable. There should be no question as to whether this or that galenical belongs to this or that drug, nor as to the strength of preparations which are at all capable of being made uniform. All simple chemic substances or plants should be, implicitly if not explicitly, officialized. It is obviously impossible to mention every salt, or every plant; but general rules should be laid down as to purity, methods of solution, etc., so that every physician who knows the correct name, the physical, chemical and therapeutic properties of a plant or definite substance, may prescribe it with the certainty that it will be correctly dispensed—allowing for reasonable competency on the part of the pharmacist.

It should never be forgotten that "the function of the Pharmacopoeia is to list what the medical profession does use, not what it ought to use." In other words, whether we regard a plant as medicinal or as an old woman's herb, whether a simple substance is manufactured in the back room of a drug store or whether it is protected by a patent, it should be officialized specifically if it is in common use, and it should be subject to general pharmacopoeial standards if liable to use as a drug at all. On the other hand, secret preparations — except the compounds of nature which are empirically known to be useful but whose mysteries have not been penetrated—and mixtures —with the same concession to nature and with the exception of simple galenical compounds—should be kept out of the Pharmacopoeia. If there is to be any particular exception to this principle it must be made in the case of a few old favorites, like the compound cathartic pill and the Brown mixture.

We expect no opposition to the general statement, that the Pharmacopoeia should deal with dosage only in the most supplemental manner; but some may disagree with the logical deduction that no division into specified amounts of drugs should be made. In other words, the pill, troche, suppository, etc., should be official only with regard to the method of preparation, not as regards the quantity separated into parts. This should be the case, not only to allow for individual differences of dosage, but because such a rule would do away at once with all contest between the apothecary's and the metric system of weight and measurement. We believe, personally, that the ingredients of a galenical mixture are more conveniently stated in percentages than by any other method of division, just as almost all commercial mixtures are, on the whole, best listed in this way; but this is a minor matter. Let the galenical be made according to pharmacopoeial specifications, but let it be dispensed and divided according to the dictates of the prescriber, using any system of weights and measures that he may agree upon with the druggist or that is in vogue in civilized countries.

Pharmacopoeias. — The new German Pharmacopoeia (1900, or 4th edition), according to report, is so far advanced for publication that it will be issued in a few months. It took nearly four years to compile and issue the 1890 U. S. P.; it is to be hoped that the 1900 issue will be more expeditiously handled.

Petrolatum.—Not with any notion of establishing a priority, but simply to endorse the suggestion and to show that the method has been in use, we call special attention to the item, "A Mechanic Laxative," on another page, and state that the same use of petrolatum was editorially recommended in the American Therapist six years ago. We have found, however, as originally suggested, that the solid petrolatum, white or yellow, works admirably, and we believe it will prove more acceptable to patients than the liquid.

Current Literature.

Puerperal Eclampsia.—Dr. Horace Savory (*British Med. Journal*, July 15, 1899) reports a case of puerperal eclampsia. The points of interest were that it was a second attack and non-fatal, though severe; that it was accompanied by haemoglobinuria and very obstinate constipation; that loss of consciousness lasted nine days, but was suddenly regained when the bowels had been relieved of a quantity of very dark, evil-smelling faeces.

He had collected notes of sixty-four published cases and quoted some to show that copraemia frequently accompanied eclamptic seizures, and mentioned several recoveries where free purgation had been the only treatment used. In his case not only were the bowels loaded, but the liquor amnii was full of meconium, as thick as jelly.—*Medical Dial.*

This observation is of great interest from the therapeutic standpoint. It is not a glorious thing to administer Rochelle salt and order a copious enema, but there may be many cases in which such treatment will prove as effective as chloroform, chloral—the "sheet anchor"—or, in ante and intra-partum cases, brilliant mechanic and operative manipulations.

Arsenical Caustic Treatment of Cutaneous Cancers.—In the *Georgia Journal of Medicine and Surgery*, March, 1899, Dr. William S. Gottheil, M.D., presents the following points:

1. The arsenious acid caustic treatment of skin cancers does not contemplate or depend upon the actual destruction of the new growth by the caustic.

2. The method is based upon the fact that newly formed tissue of all kinds has less resisting power than the normal structure when exposed to an irritation and its consequent inflammation, hence the former breaks down under an "insult" which the latter successfully resists.

3. If, therefore, the whole affected area can be subjected to the influence of an irritant of just sufficient strength to cause a reactive inflammation intense enough to destroy the vitality of the new cells, the older normal cells will survive.

4. Arsenious acid of properly mitigated strength is such an agent, and its application causes an inflammation of the required intensity.

5. It, therefore, exercises a selective influence upon the tissues to which it is supplied, and causes the death of the cancer cells in localities outside the apparent limits of the new growth, where there is as yet no evidence of disease.

6. It is superior, in suitable cases, to any method, knife or cautery, which requires the exercise of the surgeon's judgment as to the extent to which it is to be carried. That the judgment is often wrong, and necessarily so, is shown by the frequency of recurrence under these methods even in the best hands.

7. It is applicable to all cutaneous carcinomata in which the deeper structures are not involved and which do not extend far onto the mucous membranes.

8. It is easy of application; it is safe; it is only moderately painful; and its results compare favorably with those obtained with other methods.—*Columbus Medical Journal.*

Creosote in Malaria.—The epidermic administration of remedies, because of its lack of exactness, of its nastiness to the patient, and of its cumbersomeness to the attendant (*Cleveland Journal of Medicine*), has never taken strong hold in professional favor. It is true that mercurial inunctions are somewhat generally employed in infantile syphilis, but, for instance, the very favorable reports of the use of guaiacol in this manner for the reduction of temperature in tuberculosis and in fevers have not resulted in any general adoption of the method. None the less is the method of great value, especially where the stomach and bowel from any reason must

be given rest from medication. Fitzgerald in the *British Medical Journal* for July 15 reports favorable results from the administration of creosote, mixed with an equal quantity of olive oil, by rubbing on the skin of the chest and abdomen. The procedure was employed in a series of cases of malaria and was found most efficient in the case of children. The dose was 15 to 20 minims of pure beechwood creosote for a child of one year, while 30 to 60 minims were used in adults. The results are reported as uniformly good. The use of this drug in the treatment of malaria is not new, and, in cases where quinine is effective, is not necessary. The experience of our military surgeons during the past year proves, however, that not infrequently there is room in the therapeusis of malaria for other remedies than quinine. Further, as it is found in no small number of cases that the stomach becomes unretentive and that hypodermic medication is objectionable, this method of Fitzgerald deserves more than passing attention.

Guaiamar (Glycerine Ether of Guaiacol) is a dry, white crystalline powder, melting point 75° C., and corresponds to the chemical formula $C_{10}H_{14}O_4$. Soluble in alcohol, chloroform, ether, glycerine, also in about 20 parts of cold water. Its solubility in water is somewhat increased by the addition of alcohol or glycerine.

Dose from five to twenty grains, one hour before meals, given either in capsules or solution. The following formula has been found very desirable.

Guaiamar	6 drams
Glycerine	10 drams
Alcohol	6 drams
Water (warm)	2 ounces

M. S.—Dose, one-half to two teaspoonfuls in water, before meals.

Guaiamar is indicated in phthisis, where it has already been used with gratifying results. In cases of phthisis, guaiamar is best administered with the same precaution as the free guaiacol, though such serious results as are often produced by the latter from over-doses need not be feared. It has also been employed and done good service in diabetes mellitus, when the disease is due to imperfect digestion or diseased intestines, and in this connection guaiamar should be classed among the most valuable of intestinal antiseptics. When used in conjunction with pepsin it should be given one hour before meals, and the pepsin after meals.

Guaiamar, much more notably than guaiacol, has the remarkable property of being a tonic, and as such is a rival of the best tonics known. It is said also to produce quick relief in asthma.

For application to the skin it is best to be combined with lanolin, and for dressing open wounds and sores an aqueous solution containing five per cent. has been found very efficient.

Dr. Geo. F. Butler publishes an interesting description of and clinical report on guaiamar in the *New York Medical Journal*, Sept. 23, 1899, in which he unreservedly recommends it as a valuable therapeutic agent.

Uric Acid Diathesis.—In a paper, embodying the "Newer Teaching About Gout and Uric Acid Diathesis," in the *Bulletin of the Cleveland General Hospital*, April, 1899, Dr. Martin Friedrich says:

All the nuclei of the cellular elements furnish material for the production of uric acid, but normally, at least, the leucocytes of the blood give the greatest contingent. If they increase, the uric acid increases also.

There is a series of clinical experiences to corroborate this statement. Children void relatively more uric acid than adults on account of the leucocytosis of childhood. The same is true of patients suffering from leucemia. After digestion, the leucocytes are normally increased in the blood and the uric acid in the urine. Where there is no leucocytosis after digestion, as in carcinoma ventriculi, there is also no increase of uric acid. The influence of food upon the excretion of uric

acid is in proportion to the leucocytosis it causes. The same holds true wiih drugs. Quinine diminishes leucocytes and uric acid; so does atropin; while pilocarpin diminishes both, but the results obtained from antipyrin and antifebrin seem paradoxical. They cause an increase of the leucocytes and at the same time a decrease of uric acid. Do they have a conserving influence upon the nuclei?

Nuclein Compounds.—Karl Schwickerath has produced a number of mineral compounds with nuclein, and describes them as follows in the *New York Medical Journal*, (Sept. 30, 1899):

Nucleol.—A pure nuclein from yeast. It exists in the form of a whitish powder, readily soluble in warm water; insoluble in alcohol.

Mercurol.—A nucleide of mercury, containing about ten per cent. of the latter in organic combination. It exists in the form of a light brownish-white powder; is soluble in water, especially warm water, with faintly alkaline reaction; insoluble in alcohol. It does not precipitate albuminous liquids, and is not precipitated by alkalies. In preparing solutions, instead of plain distilled water, physiological salt solution (one drachm of sodium chloride to one pint of water) should be employed.

Nargol.—A nucleide of silver, containing about ten per cent. of the latter. It exists in the form of a light brownish-white powder; is readily soluble in warm water, with faintly alkaline reaction. It does not coagulate albumin and is not precipitated by alkalies or ordinary reagents for silver. When solution of sodium chloride is added to a nargol solution, no precipitation takes place. After standing for a long time, however, a gradual decomposition and separation of silver chloride occurs.

Cuprol.—A nucleide of copper, containing six per cent. of the latter. It exists in the form of a green powder; is readily soluble in warm water. Its solution does not coagulate albumin, and is not precipitated by alkalies, etc.

Ferrinol.—A nucleide of iron, containing about six per cent. of the latter. It exists in the form of a cinnamon-brown powder; is readily soluble in warm water, with neutral reaction; does not coagulate albumin, and is not precipitated by the ordinary reagents for iron. The iron is here present in a stable organic combination, which should render the product valuable when prompt absorption is desired.

The author says that these new compounds are readily soluble in water (particularly warm water), with neutral or faintly alkaline reaction, they contain the metals in true chemical combination, and they do not precipitate solutions of albuminous substances. And he states, without details, that "clinical experiments with these nuclein compounds have not only fulfilled all expectations, but they have exceeded them. Practical prolonged investigations have shown that these new compounds possess all the therapeutic advantages of the respective inorganic salts, without their disadvantages."

The Passing of Pepsin.—The editor of the weekly *Medical Review* writes the following obitiary, which is interesting even if somewhat premature:

Some fifteen years ago an industrious student made a collection of ten thousand prescriptions, taken at random from various pharmacies. The most frequent drug found in these was quinine in its various preparations. The next most frequently prescribed drug was pepsin. Since that time there has been a great falling off in the popularity of this drug. and we are of the opinion that if a similar statistical study was now made, not 10 per cent. of the original number of pepsin prescriptions would be found. The reason of this falling off in the pepsin prescriptions is undoubtedly due to our more exact methods of diagnosis and to the thou-

sands of analyses of stomach contents which have been made. There are very few cases found in which the gastric juice is carefully analyzed, that show a marked deficiency of pepsin. Dilatation of the stomach, catarrhal gastritis, ulcer and tumor are conditions which rarely show a lessening of the amount of pepsin in the stomach; in fact it is only these cases which show a marked atrophy or sclerosis of the mucous membranes, in which pepsin is markedly diminished. The constituent above and beyond all others which is diminished is hydrochloric acid. It is but natural that these more exact observations should be reflected in the therapy of the day; but it is a sad commentary on empiricism in therpeutics, that pepsin, which was once next to the leading drug in the treatment of suffering humanity, should have fallen to so low a place, and it raises a serious question as to the value of the tons of pepsin which were given in the years of its prosperity. Of one thing, however, we may be certain, and this is not true of all drugs in the materia medica, that if pepsin did no good it certainly did no harm.

Acute Peritonitis.—Dr. A. F. Hous, in *Medical Record*, June 17, 1899, (*Monthly Cyclopedia*), furnishes this outline of treatment: The symptoms which indicate operation for acute peritonitis are: 1. Local pain becoming general or general pain localizing itself; often the pain is in the umbilical region, though the primary condition is remote. 2. Tenderness localized or general. 3. Early rigidity, which is often a great aid in diagnosis. 4. Vomiting of a green, ropy substance. 5. Shock of varying degree, even before paresis has occurred. Distention should not be waited for lest it may be too late. Rise of temperature and pulse may be absent, the temperature ranging from 99° to 105° F. or higher; the pulse from 110 to 160 and thready. If the operation is performed at the beginning the result will be better. A median incision should be made unless the primary condition indicates otherwise. Perfect drainage is impossible, especially if the intestines are distended; gauze is preferable. Irrigation is not dangerous except in localized peritonitis; here adhesions might be broken down and infection disseminated. Sterilized water, salt solution, boric-acid solution, Thiersch's solution, etc., may be used. Personally, saline solution with 1 to 2000 or 1 to 3000 formalin is used. Eight minims of formalin to 20 drachms of salt solution. The The temperature of the soluion should be 105° to 115° F. For irrigation Kelly's tube should be used. From 2 to 4 gallons of saline soluion should be used for flushing the peritoneum, followed by 1 or 2 gallons of the formalized saline fluid. In non-suppurative peritonitis drainage is not required.

Incontinence of Urine.—There is a certain form of incontinence of the urine, most often seen in elderly or nervous females, in which there is a frequent desire to pass water, or the patient cannot hold it long, or it gushes away in the act of coughing, sneezing or laughing, In all these cases the incontinence is due to want of power in the vesical sphincter. In such cases the tincture of cantharides is the proper remedy, but it should be given in small doses—one minim well diluted three or four times daily, or put half a drachm in four ounces of water and give a teaspoonful every hour or two.—*Journal of Medicine and Science.—Cin. Lancet-Clinic.*

Naphtalinum, U. S. P., is a hydrocarbon obtained from coal-tar. It occurs in colorless scales and is an excellent intestinal antiseptic. The dose ranges from two to eight grains.—*Penn. Medical Journal.*

While there is nothing strikingly new about this valuable reminder of a good officinal agent, it is worth quoting because it is a rare instance of applying the term "excellent" to a "coal-tar product."

Chorea.—Dr. Geo. M. Swift writes to the editor of the *Archives of Pediatrics* (Sept., 1899), arguing that chorea is primarily due to anemia—in the sense of the popular term, "impoverishment of the blood; the patients are usually thin, pale, badly fed—what is called "run down." Give such children abundant, simple and nutritious food, with general rest cure, and when the anemia is overcome the child gradually regains its muscular control.

Hysteria.—Dr. H. C. Eyman, in an interesting lecture delivered at the Cleveland General Hospital (*Bulletin* of the Hospital, April, 1899), summarizes a general line of treatment thus:

First, and above all, improve nutrition. The patients are usually pale, anemic, and suffering from paresthesia, therefore, iron, phosphorus, arsenic, strychnia, and quinine are indicated. The diet should be carefully attended to. As these patients are hectic, and have desiccated nerves, it would be wise to avoid the carbo-hydrates and administer largely hydrogenous food. Plenty of water should be administered, preferably hot water. Further than this, discipline is the time-honored treatment for hysteria; firmness with kindness; "the iron hand in the velvet glove."

Treatment of Erysipelas.—The *College and Clinical Record* quotes the following from Dr. Augustus A Eshner's paper in the *Memphis Lancet:*

Many remedies have been used in the treatment of erysipelas, but there are two plans in particular that are deserving of the greatest confidence as applicable, respectively, to the two classes into which cases of erysipelas may be divided. In the one class, including the strong and robust, with undamaged heart and blood-vessels, pilocarpus and its alkaloid pilocarpin act almost like specifics. One-sixth of a grain of the latter, given hypodermically at the inception of the disease, and repeated once daily, together with from 20 to 30 minims of the fluid extract of pilocarpus, administered by the mouth from three to eight times in the twenty-four hours, will often cut an attack short in from twenty-four to seventy-two hours. How pilocarpus does good is not known, but it has been shown that the skin is capable of eliminating bacteria, and it may be that the good effects of this form of treatment are due to the stimulating action exerted on the sudoriparous apparatus. It is conceivable that the streptococci are in part cast off as a result of the heightened functional activity of the tegumentary structures, and that, further, the death of the micro-organisms is hastened by reason of the increased secretion of the sweat-glands.

In the other class of cases, including the aged and debilitated, with weak or defective heart and impaired circulation, quinine and iron in combination act most happily. From four to six grains of the former, and from ten to twenty minims of ferric chloride, may be given every three or four hsurs.

It is almost needless to refer to the importance of keeping the bowels free and stimulating diuresis and diaphoresis, with the hope of eliminating toxines generated during the course of the disease and averting complications, especially those related to the kidneys. The diet should be simple, assimilable, and sustaining. Innumerable local applications have been recommended, the best of which consists, perhaps, of equal parts of ichthyol and lanolin, or other unguent. Injections of mercuric chloride, gr. $^1/_{30}$, of mercuric cyanide, gr. $^1/_6$, of carbolic acid, two per cent., applications of silver nitrate in solution to the margin of the inflammatory area, a spray of camphor in ether, strapping with various forms of plaster, have all been recommended.

Animals have been rendered immune by treatment with cultures of the streptococcus, and a curative serum has been obtained, but the results with regard to erysipelas do not permit of a definite conclusion.

Cystitis.—In the treatment of cystitis, says Dr. A. H. Cordier (*Intern. Journal of Surgery—Monthly Cyclopedia*), the constitutional as well as the local symptoms should receive the most careful attention. During the acute attacks the patient should be encouraged to take large quantities of water. All articles of diet—as asparagus, etc., that act more or less as irritants to the bladder—should be left from the diet-list. The bowels should be moved with a saline cathartic, Epsom salts being the best, and the patient placed in bed if the case is a severe one. Opiates should be avoided as much as possible. The bromides, chloral, cannabis Indica, or sanmetto in teaspoonful doses every four hours may be given for pain. In the very acute cases the bladder should not be treated locally, but, if the disease is first seen in its chronic or sub-acute stage, then most cases require in addition to the constitutional treatment a careful application of local remedies. This is best carried out by inspection through the cystoscope. As a local application a 20-grain solution of protargol three times a week is valuable. If the cystitis is of a gonorrhœal origin, nothing acts better than a saturated watery solution of picric acid applied directly to the inflamed surface. Some cases are much benefited by local application of 10 grain nitrate of silver, thrice weekly. Very weak solutions of permanganate of potassium have acted much better in the chronic cases, as an irrigating fluid, than boric-acid solutions.

Acute Septic Rhinitis of Childhood.—Dr. Lewis S. Somers relates a typical case (*The Laryngoscope*, September, 1899), from which he draws general deductions, and concludes with the following outline of treatment:

The treatment should be directed to the improvement of the general condition, the restoration of the patency of the nasal chambers and antisepsis. Tonics and alteratives as best suited to the individual case and the removal of the cause as far as ascertainable should be advised; if syphilis is suspected, mercury should be used, while in nearly all cases the child improves by the use of syrup of the iodide iron. The nose and throat should be sprayed with an alkaline antiseptic solution, then with dilute hydrogen peroxide, until all pus has been removed. The parts are then covered with a spray of mentholated oil (1 to 2 per cent.), or an ointment composed of yellow oxide of mercury (1 grain to the ounce of lanoline) and not disturbed for several hours, when the child should at frequent intervals use the alkaline solution, to which has been added one grain of carbolic acid to four ounces.

Dedieu (*Semaine Medical*, March 8, 1895) has been successful in treating this affection by irrigating the nasal chambers twice daily with a tepid solution of boric acid, 5 per cent., resorcin, ½ to 1 per cent., and permanganate of potassium, 1 : 1,000. The patient uses a syphon, bends forward, and breathes with the mouth open. In connection with this he uses an ointment composed of boric acid ten parts and vaseline fifty parts, a small amount of which is placed in the nostril four or five times daily, and when the purulent discharge has ceased the nose is sprayed with a ½ per cent. solution of nitrate of silver. Although this treatment will be productive of fair results generally, yet it is dangerous to use irrigation in any suppurative nasal condition, the liability of aural infection being so great that it is far better to spray the nose.

When nasal obstruction is persistent and prevents the child feeding, it becomes important that the patency of the nasal chambers be obtained and kept so. This is best done by painting the turbinals with a 1 to 2 per cent. cocaine solution, to be followed with a ½ per cent. solution of antipyrine. A small amount of cocaine must be used and applied only to the areas of greatest enlargement, as serious consequences may follow the use of solutions of greater strength.

Book Notices.

SCHLEIF'S MATERIA MEDICA AND THERAPEUTICS.—A Manual of Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing and Medical Latin. For the use of Students and Practitioners of Medicine. By WILLIAM SCHLEIF, Ph. G., M.D. Instructor in Pharmacy in the University of Pennsylvania. In one very handsome 12mo. volume of 352 pages. Cloth, $1.50, *net.* Lea Brothers & Co., Philadelphia and New York.

The author of this new text book set himself the task of preparing "a condensed yet comprehensive text-book and work of reference on Materia Medica, Therapeutics, and a range of cognate subjects," and we fully agree with his claim in the Preface, that "it contains in a concise, definite and assimilable form the essential knowledge required in the most complete college courses on Materia Medica and Therapeutics." The arrangement is excellent and the text is written in terse and accurate style. There is evidence, too, throughout the volume that the work was carefully compiled on original and up-to-date lines, and is not simply a re-hash from existing models.

It is a work of reference in a limited sense only. Whatever is included in the index is completely treated in the text; but the index and the text omit scores of drugs that are in extended use, and that are of the kind that one is most likely to want to look up in a work of reference. For instance, orthoform and holocain—both of established value—are not mentioned with other Anesthetics; hyoscine is duly described with the Hypnotics, but no mention is made of its synonym scopolamine; under Mineral Astringents silver is duly described, but none of the new silver salts (argentamin, argonin, etc.) are mentioned; under Tonics all the old iron preparations are listed, but the most valuable of all—the notable discovery of the eminent pharmacologist and therapeutist, Professor Schmiedeberg, and the only one that has been thoroughly tested physiologically—ferratin, is not even mentioned by name; under Antipyretics the long-ago discarded kairin is described, but the popular lactophenin, kryofin, etc., are not referred to; under the same class creolin (correctly described as an antiseptic) is listed erroneously, but it is not referred to among Antiseptics, while the much safer and very popular lysol (officinal in the German Pharmacopoeia) is not mentioned at all; piperazine, lycetol and urotropin (a series of unique agents for uric acid treatment) are not referred to in the book. This list of omissions could be greatly extended, but the above mentioned will suffice to show that the book, while an excellent text-book, is not a satisfactory work of reference.

Strophanthin is not included in the index, but it is mentioned in the text as "too powerful a drug for general use." This is not quite true, for the sale is considerable and surely indicates use. The author also says quite uselessly, that "strophanthus was not official in the U. S. P. in 1880." Of course not, as it was first therapeutically studied and introduced about 1887.

Despite these minor criticisms, however, we repeat that the work is of excellent standard, and it deserves wide adoption as a text-book.

DISEASES OF THE EYE. By GEORGE M. GOULD, M.D., and WALTER L. PYLE, M.D. Second edition, 295 pages, including list of topical applications (our apologies to the authors for saying topical), table of ophthalmologic abbreviations, glossary and index. 109 illustrations. 1899. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. (Price, 80 cents, net).

This little work is eighth in the well-known brown series of Quiz Compends, although the method of formulating questions and answers has been abandoned, and, instead, is offered a tersely written description of the eye, its refraction and diseases. Many differential tables are introduced. We rather regret that the

centesimal method of indicating the composition of solutions is not employed.

No quiz compend can do full justice to the subject with which it deals, but such books are of a certain value in enabling the busy general practitioner to keep in touch with the advances of the subject treated and to refresh his memory. The most obvious demand for the compend is by students preparing for examination. While it is the fashion to decry the method of cramming for examinations and everything that tends in the same direction, we do not believe in the general condemnation of quiz manuals. If such books are often used improperly, it is not directly the fault of the user, but of the present examination system, for which no one has as yet suggested an available substitute. So long as percentages, obtained in a brief space of time by answering questions, are given an economic value by graduating, licensing, and civil service boards, just so long must the examinee prepare himself, not necessarily to know the subject thoroughly but to be able to answer the questions which may be put to him. Of its kind, the work ia question is excellent, well written, well printed and well arranged.

The Pathology and Treatment of Sexual Impotence.—By Victor G. Vecki, M.D. Second Edition (from the German), revised and rewritten. 8vo., 219 pages. 1899. Publisher, W. B. Saunders, 925 Walnut Street, Philadelphia. (Price, $2.00, net).

The original first German edition of this work was published in 1889; a second edition, containing some valuable additions to the therapeutics of sexual impotence, appeared in 1896. In making the work available, by translation, for the English speaking part of the profession, the author has rendered additional good service and has greatly augmented his audience. The work is pervaded by a spirit of earnest research and the endeavor to make the material practically valuable by indicating successful modes of treatment. In other words, it is not an ephemeral compilation of a certain sort of interesting matter for casual reading, but a therapeutic guide, which may greatly benefit physicians and their patients.

The thoroughness of the work is indicated by the consecutive order of its divisions: Anatomy, Physiology of the Sexual Act, Etiology of Impotence, Forms of Impotence (a great variety, the descriptions covering 115 pages), Diagnosis, Prognosis, Prophylaxis, and Treatment. The chapter on treatment fills 54 pages and apparently covers the subject exhaustively.

American Pocket Medical Dictionary.—By W. A. Newman Dorland, A.M., M.D. Second Edition. 1899. W. B. Saunders, Publisher, Philadelphia. (Price, $1.25, net).

The first edition of this excellent little work was issued just one year ago, and we described it in favorable terms at that time. The present revised edition contains pronunciation and definitions of over 26,000 terms used in medicine, with over 60 usefal tables; some slight errors have been corrected and a number of important new words added, bringing it fully up to date.

It is a book of 518 pages, finely printed on thin but good paper, well bound in leather, with patent letter-index on side. Intrinsically and mechanically it is a very desirable book to possess.

Diarrhea Mixture Without Opium.—

℞ Tr. camphor.....ʒ i.
Tr. capsici.....ʒ ss.
Tr. Lavandul. comp.....ʒ ij.
Spts. vin. gal.....q. s. ad ℥ ij.
M. S. Teaspoonful every two or three hours.

—Rex.—*Medical Record.*

Guaiacol applied locally seems to be a safe and efficient remedy in relieving the pain of arthritis deformans, acute articular or muscular rheumatism, sciatica, orchitis and epididymitis. One part of guaiacol to ten or fifteen parts of vaseline or lanolin should be applied to the painful parts.—*Journal of Medicine and Science.*

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VIII. NEW YORK, OCTOBER, 1899. No. 4.

Original Articles.

THE ADMINISTRATION OF CHLOROFORM.

By F. H. McGUIRE, M.D.

The anesthetic should be given slowly, but persistently, holding the cone from four to six inches from the face, first allowing the patient to take a few inhalations without any anesthetic on the cone. Then drop on one or two drops, requesting the patient to breathe naturally and regularly. (Patient will frequently breathe regularly, if told to count.) Then gradually allow the cone to come nearer the face until it rests upon it. Slowly increase the quantity on cone, according to the amount the patient requires, some requiring more, others less.

I do not believe that any set rule can be used for increasing the anesthetic, as some patients can take much larger quantities than others without experiencing any unpleasantness. Experience teaches the proper amount. If the patient should cough or struggle, remove the mask and allow a few respirations without any anesthetic. In this way patients are frequently anesthetized without any unpleasant sensations. To recapitulate: commence at zero, and gradually increase the strength of vapor to the amount necessary to produce the required effect. This is the safest and most scientific mode. When the desired effect is produced, the patient should be kept there, if you will allow the term, "with his head just above water." If you allow him to come from under the influence of the anesthetic and then push him under again, now up, now down, then he is in imminent danger. Except in rare cases, if he recovers when once under, so that in your hurry to get him relaxed you pour on a larger quantity or soak the mask, the fault is yours and the subsequent danger that may arise should be charged to your negligence and not to chloroform.

Our object should be to give the least possible anesthetic, but sufficient to keep the patient in the third stage, and I believe this can be accomplished more skillfully by watching the ocular reflexes than by any other. The pupils at the beginning are usually dilated, unless morphine has been administered previously. They will usually contract under chloroform and should remain so while safe and efficient quantities are administered; while, if the patient is allowed to recover somewhat, they will dilate. The pupils will also widely dilate when chloroform is pushed to the stage of paralysis. It is just at this time that it is very important to know whether you should give your patient more chloroform, or allow him more air. I am always directed in this by feeling the rigidity or tension of the eye — either externally to the eyelids, or on the cornea, if necessary. If the pupils are widely dilated and the eye rigid, it is time to give your patient a liberal allowance of air. If the pupils are dilated and the eyes soft and flabby, give more chloroform.

Another important reflex is the oscillating edge of the iris. While this remains the anesthetic can be safely pushed, but when it disappears the point of danger is usually approaching. There are a certain number of patients whose pupils remain dilated during the entire anesthesia, especially if it is pushed too rapidly at the be-

ginning. Another class is of those whose ocular reflexes are absent. In these you have to be guided by the remaining reflexes, the condition of the heart and of the respiration. If any do not bear the chloroform well, ether should always be resorted to. In using the ocular reflex always examine for glass eye, as serious mistakes have been made by not noticing this condition. There are objections to using the ocular reflexes, as conjunctivitis and ulcerations of cornea have been caused by either an unclean finger with a long nail, or by a drop of chloroform. The former can be prevented by cutting the finger nails short and having the hands clean. The latter by using a towel over the eyes, and removing it only when you wish to examine the eye. I believe these objections count for *nil*, as compared with the safety of our patients. Muscular relaxation may be tested from time to time by the raising of the forearm. Snoring and stertorous breathing indicate pharyngeal and faucial paralysis and with this the stage of surgical anesthesia. The masseter muscles are generally the last to relax. If during anesthesia, the patient regains control of the jaw, he is coming out of the influence of the anesthetic.

In operations for suppurative appendicitis, pyosalpinx, intestinal obstruction where more or less peritonitis is present, also in separating old adhesions, the patient may be profoundly anesthetized, and the abdominal muscles will be still unrelaxed. This condition can generally be obviated by giving a hypodermic of morphine before the anesthetic is commenced. It must not be forgotten that reflexes are produced in operations on the prepuce, rectum and vulva, when the patient is, otherwise, under complete anesthesia. Also in hysterical women the fingers will sometimes move, and if you depend entirely on this reflex and push the anesthetic, you will soon have your patient in a condition in which the respiration is embarrassed, or has ceased and the pulse becomes imperceptible. In other words, you will have the stage of paralysis.

The character of patient's breathing is probably the most important sign of his condition. The ear rather than the eye should be depended upon for the assurance that he is breathing properly, as the chest may rise and fall regularly, and no air enter the lungs. The sound of the air entering the trachea and bronchial tubes is unmistakable. I do not wish to imply that the anesthetizer should concentrate his attention on the breathing, or on any single point, but his ear should be so well trained as to detect the slightest change. Snoring and stertorous breathing is produced by paralysis of the pharyngeal and faucial muscles and is indicative of profound narcosis. With ether this is not necessarily a dangerous condition, but when it occurs during chloroform narcosis it should always receive attention, ascertaining the profoundness of the anesthesia. Turning the head a little to one side or from one side to the other will frequently stop it. If not, the lower jaw should be brought forward.

Patients with adenoids and nasal obstructions, or those who are fleshy, may have disagreeable respiration during the entire anesthesia. The respirations at the beginning of the anesthesia are slow, but the patient should be directed to breathe naturally. During the stage of excitement patients will frequently hold their breath for some moments and then take a full deep one. At this period chloroform should not be pushed, as sufficient of the vapor may be inhaled with one deep breath to paralyze the muscle. If it is necessary to add more anesthetic, it should be done slowly and very carefully. When full anesthesia is reached the respirations are about normal, but if the stage of paralysis is reached, they become slower, more shallow and finally cease. During anesthesia, short, jerky and rapidly increasing respirations, repeated efforts at deglution with pulse in-

creasing rapidly, dilated pupils, responding to light, are a warning that vomiting may occur. If this condition is not noticed at once, and more anesthetic given you will have to undergo the odium of having your patient vomit.

The management of the tongue is very important. The more skilfully this is managed, the more skilful will be the anesthetizer. If the epiglottis closes, it should be brought forward by closing the mouth and bringing the inferior maxillary forward and, if necessary, slightly extending the head. Sometimes merely closing the mouth will remedy this condition. When the mouth is closed, know that there is no nasal obstruction. If necessary a catheter may be passed through the nares. If this does not remedy the condition, use a strong tenaculum to bring the tongue forward, or pass a needle with strong silk from side to side through the tongue and make traction. A tongue forceps such as we usually see in the clinic should not be used, as it is unnecessary and mutilates the tongue, so as to be a great source of annoyance to the patient while convalescing. I believe this instrument should be relegated from every operating room. The tongue seldom requires bringing forward, if the anesthetic is skilfully given.

It a gas jet is burning in a room where chloroform is used, proper ventilation should be provided, as the fumes break up into acetylene and chlorine gases, which are very depressing. The respiration should not be embarrassed by leg supports, which pass around neck and shoulder. The best supports are those which are attached to the table, or another kind may be used in which a belt passes around the body at the umbilical region and the legs are attached to a band by the strap.

I have dwelt particularly on the use of chloroform, as it is, in the great majority of instances, the only anesthetic to be employed when operating with trained assistants and in proper surroundings.

Buffalo, N. Y.

*ON THE RESUSCITATION OF THE APPARENTLY DEAD NEWBORN.**

Laborde's Method.

In a report read by Dr. Francis E. Fronczak, of Buffalo, at the meeting of the Central New York Medical Association at Syracuse, Oct. 17, 1899, the author said:

This method is only of recent origin, being first made public by Professor Laborde in 1892. It consists in the rhythmic tractions of the tongue at the respiratory rate of about twenty per minute by two fingers covered by ordinary cotton or handkerchief. The respiration is brought about by a reflex irritation of several nerves at the base of the tongue. Among the causes of asphyxia neonatorum the author mentions the use of the forceps in delivery as being a very common cause, as they often "bring about stoppage of return circulation from the brain of the child, with the resulting engorgement of the cerebral cortical vessels and rupture of these vessels into the brain tissue.

The various methods of resuscitation of the asphyxiated newborn are mentioned, and especially Schultze's own method is fully analyzed. The author, however, claims Laborde's method to be better than the latter, which is most commonly used by the profession.

1. The Schultze's method is considered too tiresome by the person using it.

2. Schultze's, Prochounik's and a few other methods cannot be used in fracture of clavicle on account of danger of penetrating the lung or injuring the pleura.

3. Severe methods cannot be used in case of fractures of an extremity of the newborn.

4. Schultze's method cannot be used in premature infants.

5. Low ceilings and close quarters, as often found among the poorer classes, prevents the use of Schultze's, Prochounik's and other methods.

* Author's abstract.

6. Laborde's method does not chill the child, as it is constantly in the warm bath.

7. The obstetrician can watch for the beating of the heart of the newborn without stopping, as in many other methods.

8. Lastly, simplicity of the technique.

The author reported several cases, and quoted from the foreign literature in support of his argument.

*RESORCIN IN GONORRHEA.**

By Jos. Adolphus, M.D., South Atlanta, Ga.

Resorcin was first made from some vegetable gums, *e.g.*, asafœtida, guaiacum, etc., by dry distillation. It is now made from benzene, a derivative of coal tar. Resorcin is a remarkably valuable medicament in the treatment of all pusy inflammations of mucous membranes, having evinced itself a good local medicament in gonorrheal diseases after the first forty-eight or sixty hours of the appearance of the disease, used as an injection of the strength of 4 to 6 grains to the fluid ounce of water. In this disease, when used as it should be, not too strong nor too weak, and retained in the urethra two to five minutes, it has afforded me the most satisfactory local treatment of any I have used heretofore. It will produce the best and most satisfactory results if it is injected with a black rubber penis syringe in good order, and the fluid a little hotter than the blood, repeated three or four times daily, and once or twice at night. If the injections are too strong the results obtained from them will be disappointing on account of the irritant effects they cause on the mucous membrane of the urethra. Many physicians after using resorin in gonorrhea discarded it on account of the irritations it caused and the aggravation of all the symptoms, as well as provoking in some cases orchitis and sometimes epididymitis. When the injections are only of moderate strength they afford the best results. I hardly ever use an injection of over 5 grains to the fluid ounce of water; then the results obtained are quick diminution of pus and scalding pain on urination, no chordee or painful erections. I am sure strong injections of any kind are liable to cause stricture of the urethra.

When the gonorrhea has become chronic, and the urethral discharges are more mucus than pus, I add a little chloride of zinc to the injection, about 1 or 2 grains to 4 ounces and order it to be used hot. I often succeed in curing these cases if the injection is retained five minutes each time, twice a day. The syringe must be a good one, so that the injection can be forced into the urethra and expand it so completely as to allow the injection to bathe every portion of it and act on the parts, for this is the only way the disease can be antidoted and the gonococcus destroyed.

The urine must be kept alkaline or neutral with Rochelle salts, the bowels kept only soluble, so as to have an action every day. The food must be non-irritating, and easy of digestion and assimilation. Meat diets, too freely indulged in, must be interdicted, in fact, only a small portion of meat of any kind in the daily food must be taken. Vegetable food is best, as rolled oats and wheat, rice, good bread and fresh butter, plenty of milk, buttermilk, not much tea or coffee, but a little if the patient has used either freely. No spirituous or fermented beverages. Abandon copulation and live a temperate, manly life. If eggs, oysters and such food provoke amorous feelings, they must be avoided rigorously.

* Abstract of paper in the *Medical Times*, September, 1899.

The Hypodermic Injection of Mercury Rendered Painless by the Addition of Guaiacol.—Bazin (Semaine Med., March 22, '99) states that injections of oily solutions of the biniodide of mercury will be rendered painless by the adding of pure guaiacol:

R.	Mercury biniodide...	gr. vi
	Guaiacol (synthetic)..	gr. xxxvi
	Olive Oil (sterilized)..	℥ xx.

Thirty minims of this solution contain about ¼ of a grain of the mercury and may be injected every day without pain.

*THE HOME TREATMENT OF CONSUMPTION.**

By Albert Abrams, M.D., of San Francisco.

At no time in the history of medicine has phthisis-therapy been established on a more enduring subtratum. Koch's discovery of the tubercle bacillus marked a memorable epoch in medicine. Yet this discovery, great as was its import in diagnosis, contributed only negatively to therapeutics. It gave impetus to the bacterio-therapeutic method, which had its genesis in the laboratory with the culture tube as the object of experimentation. When the successful laborant was confronted by the disappointed clinician he soon awakened to the realization that there was a decided difference between culture tube and pulmonary tuberculosis. The bactericides so destructive in the laboratory proved impotent at the bedside.

That there is no tuberculosis without the tubercle bacillus is unreservedly accepted in the same blind faith as is the dogma of the Mohammedan. The etiologic factor of phthisis in the clinical sense is by no means the tubercle bacillus alone; the tubercle bacillus is a mere accident in the etiology of tuberculosis. The *habitus* phthisicus precedes the advent of the bacillus, for without a receptive condition of the organism the inhaled bacilli are practically inert. Science and empiricism have established certain axioms. The first axiom was that of all chronic diseases phthisis was the most curable. The second axiom was that fresh air was a specific in phthisis. Its specificity has been demonstrated with the same certainty as has mercury in syphilis and quinine in malaria.

But pure air is only a specific if it is able to attain the remote alveoli of the lungs. The reader of the paper has demonstrated that no form of pulmonary gymnastics equals forced deep breathing with a suspension of respiration thereafter for a variable length of time. He studied the different methods of breathing advocated with and without accessory contrivances and found that the Roentgen rays demonstrated that forced breathing was sufficient to secure thorough lung inflation. What he has called the *lung reflex* is practically nothing more than dilatation of the lungs which is secured by cutaneous friction. He therefore employs cold water to the chest followed by vigorous friction as an aid to pulmonary gymnastics. He advocated early treatment of phthisis to secure results. He said that there was a time when the presence of the tubercle bacilli in the sputum indicated the earliest sign of pulmonary tuberculosis. In the present state of our knowledge this sign must be regarded as a late symptom. The so-called pretuberculous stage is really the tuberculous stage. Phthisis, like pneumonia, is a constitutional disease. In both diseases the lungs are merely the stage on which is played the tragedy of somatic infection. The solar rays are invaluable in the treatment of consumption. The ultra violet rays of the solar spectrum penetrate the body in like manner to the X rays. The main features of the hygienic treatment were summarized as follows:

1. Outdoor life in a pure air for every variety of case without regard to symptoms, in all weathers and seasons, for whole days and, when possible, all night.
2. Hyper-alimentation by means of nutritious food, properly selected and prepared, given at definite and frequent intervals.
3. Moderate exercise, stopping short of fatigue, and an abundance of mental and physical rest.
4. Judicious medical supervision of every detail of the patient's daily life.

He then referred to his method of applying the hygienic treatment at the homes of his patients. His results demonstrated that in the first stage 70 per cent. of his patients were cured, and 40 per cent. in the second stage.

* Abstract of paper read before the San Francisco Medical Society, September 12, 1899, from the *Pacific Medical Journal*.

*TREATMENT OF LOBAR PNEUMONIA.**

By JOHN G. CECIL, M.D., B.S.,
Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Louisville Medical College, etc.

A more correct title for this paper would be "The Treatment of a Patient Suffering from Lobar Pneumonia." Since the classification of lobar pnumonia as an infectious disease and since no specific treatment has yet been devised, it is hardly proper to speak of treating pneumonia. It is in the nature of this disease to run a definite course practically uninfluenced by any treatment; accordingly, the sooner our therapeutics is raised to the level of our pathology the better it will be for the patient. Notwithstanding the truth of the foregoing statement, it must not be inferred that nothing is to be done; on the contrary, there is very much that may be done; only let our attention be directed to the patient and not to the disease. While the course and termination may be regarded as fixed, the conditions existing at the time of attack will certainly modify them in a most decided manner.

"In the treatment of pneumonia it is essential to recognize that, though the disease may be a unit from a pathological point of view, therapeutically it comprises essentially diverse diseases.

"A pneumonia whose physical signs can not be made out in the beginning, but gradually creeps up towards the chest wall; a pneumonia whose expectoration is in the beginning prune-juice, whose crepitant râle is never typical, whose physical signs are obscure until complete consolidation gives percussion dullness; or a pneumonia occurring in the alcoholic, in the old, in the victim of renal disease, in the broken-down debauchee, in the worn-out city merchant or professional man, is in its management essentially distinct from a pneumonia the result of exposure of a strong, healthy countryman to a Western blizzard or other cold.

"In one form of pneumonia sedative treatment may kill the patient; in another form sedative treatment at the beginning of the attack may be necessary for the saving of the patient." (Wood & Fitz.)

Attention will be asked first to the sthenic type of the disease.

In the young healthy individual the management of pneumonia resolves itself practically into making the patient as comfortable as circumstances will admit of. A good purgative dose of calomel to start with will anticipate and prevent much subsequent discomfort.

For pain, which varies according to the extent of pleurisy, small doses of morphine, or its equiqalent in other preparations of opium, will afford the surest and safest relief. The objections to the use of opium in lobular pneumonia and in the asthenic type of lobar pneumonia does not hold in the management of the variety of pneumonia now under consideration. Opium not only quiets pain, but it allays the cough which is often harassing and never of much benefit. A very small proportion of the fibrinous exudate is disposed of by cough and expectoration. There is therefore no danger of seriously interfering with excretion through this source. The small dose of morphine tranquilizes the patient, gives rest and sleep, does not interfere with the progress of the disease, and answers every purpose of a cough medicine. A single dose of one-eighth grain of morphine given at bedtime is generally sufficient. Pain is also combated in a successful way by the use of the ice-bag, which is a great improvement on the time-honored hot poultice.

The fever of pneumonia, even when it rises to 104° or 105°, is not necessarily such a bad indication; it demonstrates a resistance that is very essential to successful issue. The course of this fever is short, and, even though a high grade is maintained, it need not be fought with the same zeal that fevers of longer duration demand. The ice-bag to the affected side exerts a good influence in reducing temperature as well as in relieving pain.

Hyperpyrexia can be controlled by cold sponging or the cold pack. The coal-tar

* Read at the meeting of the Kentucky State Medical Society, May 18, 1899.—From the *American Practitioner and News*, Aug. 15, '99.

derivatives have no place in the management of this or any other kind of pneumonia. Veratrum viride, aconite, and phlebotomy are indicated in just such cases as demand no treatment at all; consequently can hardly claim a place in the therapeutics of pneumonia. Their action is to depress the heart; certainly no specific action can be claimed for them. If lessening blood-pressure by their use is the intention, we have better and safer means at our command.

The pathological condition confronting us is certainly not materially altered by slowing the pulse. If the heart maintains a steady ratio to the height of fever, neither heart-tonics, stimulants nor sedatives are very essential. Should, however, a tendency to heart-failure, first generally shown by loss of accent to the second sound, manifest itself, the indication for tonics and stimulants is plain, and they should be exhibited for effect regardless of dose. A heart-action that gains in rapidity day by day, independent of variations of temperature, is of serious import and should awaken the most active resistance. The key to the successful management of pneumonia lies in the wise and judicious adjustment of therapeutic agents to meet a progressively failing heart. Of all agents for this purpose whisky and strychnine are the most reliable. Strychnine should always be given hypodermatically, the dose repeated every three or four hours; should vary one-sixtieth grain to one-tenth grain; the effect alone should determine the size and frequency of the dose. Whisky is best administered without sugar in plain or aerated water, one, two, or three hours intervening between doses. In nitro-glycerine as a diffusible stimulant and adjunct to whisky we have a valuable agent. It enables us often to tide the patient over a critical point. Much distrust as to its value has arisen from unreliable preparations. Its action is rapid; its effects quickly disappear. The dose should therefore be quickly repeated.

Digitalis is inferior to strychnine as a heart-tonic; the overburdened heart is more certainly relieved by the peripheral capillaries and inviting the blood into them. This is what is done with whisky and nitro-glycerine.

In cases of extensive involvement of the aerating space with marked cyanosis we have in oxygen gas a remedy of great usefulness; its administration will help to carry many a one over a rough place and enable him to reach and pass in safety the crisis. The use of it should not be delayed too long, nor should the apparent hopelessness of the case ever be used as an argument against it.

The feeding of a pneumonic patient is of no little importance; he is far more likely to be overfed than to be underfed. These patients are seldom, if ever, hungry; more often they have no appetite at all; digestion will be a very uncertain problem.

Indigestion resulting from forced feeding favors the accumulation of flatus in stomach and bowels, which, in turn, embarasses the heart and lungs in their action. Meat broths and milk with aerated waters should constitute the regimen. Solid food, egg-nog, and milk punch are not desirable, and should be forbidden. There is no danger of starvation in the short course of this fever, and little can be done to maintain strength by giving of food during activity.

A word as to examinations of the patient. Having made the diagnosis, frequent examinations during the progress of the case are both unnecessary and injurious. To turn the patient over is annoying and painful; to raise him to a sitting posture is dangerous and needless. The course and progress of the disease can be determined without daily or bi-daily examinations, and even though new areas are being invaded, the management will hardly be varied. The heart's action, the rapidity of respiration, and the distribution of pain will usually give all necessary information without frequently repeated examinations.

The management of lobar pneumonia in the healthy and robust resolves itself into practically a do-nothing policy; make the patient comfortable, relieve pain and cough with an opiate and the ice-bag, sponge with cold water for excess of fever, do not force the feeding, and do not harass by frequent examinations. Watch the heart with jealous care, and be ever ready with tonics and stimulants at the first sign of failure. For delirium and sleeplessness apply cold to the head. Do not overfeed; do not overtreat; do not meddle.

The management of pneumonia in the aged, diseased, or dissipated is an entirely different proposition; the fight begins with the initial symptoms of the attack, and every energy is bent in sustaining the already crippled heart. The policy must be prompt, active, and alert. To guide these patients over the crisis calls for the most constant and watchful care, and will tax to the limit the skill of the therapeutist. No disease requires more skill and attention in nursing, and the services of at least two faithful and skilful nurses will be demanded. A successful issue in such a contest is a feat to be proud of, and one scarcely equaled, never surpassed, in the realms of medicine and surgery.

The chief aim in the management of such cases will be to sustain the heart; the agents at our command are practically identical with those used in the threatened heart-failure of sthenic cases.

Opiates may be necessary to relieve pain, but itsadministration and dosage must be most wisely adjusted. Small doses of morphine repeated as the occasion may demand will be safest and most efficient.

It is only when fever is excessive that it requires any attention whatever. Much oftener will it be found that the temperature will be comparatively low, indicating a lack of resistance, a very unfavorable indication. The application of cold in any form as a rule is not well borne, and other antipyretics are out of the question.

Delirium, which is very constantly present, is best met by the use of stimulants, as brandy, whisky, or caffeine. No medicine of depressing character is at all admissible.

Strychnine, digitalis, nitro-glycerine, strophanthin, cocaine, and atropine comprize the medicinal agents for combating heart-failure. They should be given solely by the needle. Their administration should be determined by the effect, and should be under the immediate supervision and direction of the physician himself.

The whole question of feeding is of secondary importance; it is better to leave off food of all kinds and preserve the stomach in its integrity for such stimulants as whisky and brandy. The amount of whisky which may, with advantage, be given will be largely determined by the ability of the stomach to digest it. Oxygen gas will often prove of incalculable benefit; it should be used early and persisted in until the last ray of hope is gone.

After all, and in the face of all efforts, let them be never so prompt, never so wise, never so assiduous, pneumonia in this class of patients will ever remain the most destructive and deadly of all common acute diseases, and the winner of these hard-fought battles may be justly entitled a wise and good physician.

Gelato-Glycerin Bougies in the Treatment of Earache.—Richards (*The Laryngoscope*, August, 1899) recommends the the following in the early stage of acute otitis media and acute otitis externa:

℞.	Carbolic Acid	7 minims
	Fluid Ext. of Opium,	6 minims
	Cocain	3 grains
	Atropine sulfate	3 grains
	Water	52 minims
	Gelatin	18 grains
	Glycerin	158 grains.

To make 42 bougies the size of the urethral bougies, and dispensed in a bottle. After inserting a bougie, the ear should be stoppered with cotton and covered by a hot water bottle, and the anodynes lessen the pain. A paracentesis may thus be prevented.

A well-trained recent graduate who has carefully followed his hospital cases is quite well up in diagnosis and in the science of medicine generally. He thinks he can "work up treatment out of books," or at least that he is expected to do so, as so little attention is given in the schools to the art of medicine as distinct from the science. He can probably count the red corpuscles, distinguish the principal kind of pathogenic bacteria, and examine the larynx or retina in a satisfactory way; but in the majority of cases he could not treat a case of tonsilitis or bronchitis so as to give relief and satisfaction to the patient who comes to him for that very thing.

To be sure, the art of medicine or treatment could not be successfully imparted in books to one ignorant of clinical medicine; but given a careful training in this, and what underlies it, a great deal, and that the most valuable part of treatment, could be described in a well-written book so as to be of the greatest value, and would be the best substitute we have for the old-time way of instructing a student in treatment in the office of an experienced physician. The first school which pays a first-class man who will give his whole attention to the subject of treatment, will attract many students. I have yet to see a medical work devoted to treatment which was written in what I believe to be the proper way, viz., to give exact directions (as far as possible) for treatment during the different phases of a given disease, citing half a dozen or more clinical cases, to show the probable effect of treatment upon certain painful, inconvenient or dangerous symptoms.

Who is, and where is, the experienced, clear-minded and successful physician who will write such a book devoted entirely to the art of medicine or treatment?

THOMAS JEFFERSON TO JENNER. — "You have erased from the calendar of human afflictions one of its greatest." — *N. Y. Post-Graduate.*

*NOTES ON THE TREATMENT OF RICKETS IN AN OUT-PATIENT DEPARTMENT.**

By E. MANSEL SYMPSON, M.A., M.D., Cantab., M.R.C.S.,
Surgeon to the Lincoln County Hospital.

Two great principles of out-patient treatment are, I think, simplicity and directness. There is always such an atmosphere of doubt as to whether the directions of the physician or surgeon are carried out away from the hospital, as to whether the medicines and applications prescribed are used rightly, or indeed at all, that the simpler the treatment and the more directly it can be applied to the patient the more satisfactory the results will be.

Again, I attach great value to taking the parents or friends of the patient into one's confidence, and the easier the methods of treatment are to understand and explain the more quickly do we gain over to our side an ally or allies, of perhaps not much active good, but one or more whose efforts against us would paralyze our work.

And I believe that these remarks apply particularly to the out-patient treatment of rickets. For patients in the first few years of life, from 1½ to 5 years, my plan of campaign is practically the same for all. For those with heavy bodies and heads, protuberant bellies, head sweats, and commencing or acquired bow-legs or knock-knees, the food supply is carefully attended to, the digestive functions restored as soon as possible, starchy food being limited, fats being recommended, especially bacon fat and dripping, which I believe has for these cases a high nutritive value. For very young children especially the addition of some cream to the dietary is most valuable. Condensed milk, if it be taken, should be replaced with cow's milk boiled, and a weak gravy soup or broth will often help to stop the rickety tendency. For marasmic patients nothing

* From *Pediatrics*, Oct. 15, 1899.

acts so well as a daily rubbing under each axilla with cod liver oil. For all these rachitic patients, then, varying the dose slightly according to age, I prescribe cod liver oil and syrup of the phosphates of iron.

In very hot weather I let the children leave off the oil, but the mixture generally is very well taken, and the results certainly are most satisfactory. In cases with any tuberculous or syphilitic history the syrup of the iodide of iron should be substituted for that of the phosphates.

Next, as to the treatment of the rickety deformities, especially of the leg bones. In the case of patients under the age of 4, even with very marked bowed and bent tibiæ and some degree of knock-knee, I can assure the patients with great confidence that after nine months' to fifteen months' treatment these deformities will be very greatly improved or altogether remedied. I show them how, if one presses a warm stick of sealing wax at one end on the table, it bends and curves, and I tell them it is much the same with their child's leg bones, which are soft and overweighted with the heavy body and head they have to carry. If I then lay the stick of wax down on the table they see that no pressure is bending it, and I tell them that is the condition of their child's bones when he is off his feet.

Few things mothers dread for their children more than the thought of an operation, and a good deal of moral pressure can be brought to bear on them to induce the proper carrying out of one's orders by the suggestion that the alternative to your treatment is an operation. I was glad to find the opinion of our President and other members of the Section strongly expressed as to the not remote danger of operating (whether by osteotomy or osteoclasis) on soft bones. In that opinion I thoroughly share, and am prepared to leave any question of operation to a later age—say 5 or six years. By that time we can see whether ordinary treatment has been able to effect anything. the bones have got harder, and there is less risk of producing the calamitous condition of pseudarthrosis.

These children's legs should be put up in splints, preferably outside ones, which may purposely be made three or four inches too long. This treatment prevents the patient's walking, or, at any rate, prevents much pressure being exercised on the soft bones. The splints should be taken off once every month or three weeks in the winter, and once a fortnight in the summer. Here again is a good opening for explaining to the mother that we do not want to apply any pressure to the child's legs to straighten them, and that she can generally be taught to replace the splints, if necessary. I do not deny that a rickety child's legs occasionally become much straighter with no treatment whatever. I remember one case of a little girl with very bent tibiæ, whom I wanted to put into splints, especially as her grown-up brother looked as if, like the sailor, his feet had been tied under a horse's abdomen. In spite of this object lesson, the parents objected to my keeping the child in splints. Nothing more was done for her at that time. Her diet was rectified, and in a year's time the legs were quite straight. Still I feel sure that the great mass of these rickety children are far better when off their feet—for this reason, that the deformity of the pelvis is so much less apt to occur, as little or no pressure is acting upwards through the acetabula while the child is lying down, or even sitting up. We have in Lincoln a fair number of cases of rickets, not so much from insufficient as from bad feeding and overfeeding of infants.

I have only to thank you for the attention you have given to these notes, the fruit of my experience during the last seven years.

GOITER.—F. Huber reported a case of rapid growth in a child 7 years old, quickly made to disappear by thyroid therapy.—*Archives of Pediatrics*, December, 1897.

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A. L. BENEDICT, - - - - - - EDITOR,
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Editorial.

ANESTHETICS.

Anesthesia is an issue that will not down, and, perhaps, no other topic in medicine contains so many debatable points which years of experience and experiment have been insufficient to settle. During the last few years, however, there has been a decided trend toward favoring chloroform not only as the most agreeable but as the safest anesthetic, when carefully administered. A. C. E. and other mixtures, even including the much vaunted SCHLEICH formula, are viewed with increasing suspicion on account of the varying volatility of the ingredients and the consequent uncertainty of action. From experiments with the oncometer and from examinations of the urine, Dr. ROBERT COLEMAN KEMP, in a recent report to the New York Academy of Medicine, concludes that SCHLEICH'S anesthetic and MYER'S modification of it are most dangerous, ether next, chloroform safest, so far as the deletereous action on the kidneys is concerned. The A.C.E. mixture may be considered as practically the same as chloroform, if air is freely admitted, while if given concentrated the "ether kidney" results.

Nitrous oxide is universally conceded to be available only for short operations, and the newer anesthetics have, one by one, yielded the field to the main rivals, ether and chloroform. At one time, it was thought that local anesthetics might largely supply these two stand-bys; but, with increased appreciation of the dangers of operation, the profession is coming to realize that anesthesia is not merely a question of the sensations of the patient, but the freedom both from pain and from nervous excitement is a very important factor in diminishing the shock from operation. Hence, with occasional exceptions, due to the psychic make-up of the patient, or to local conditions of disease, chloroform or ether must be administered for all serious operations of more than momentary duration.

Most surgeons are now agreed that for large series of operations, fewer patients will die on the table from ether than from chloroform, but that more will die in the next few days from kidney or pulmonic complications if ether is used. It is, however, conceded that ether is the safer if administered unskillfully. In our opinion, this last fact has an important bearing on the statistics of death from anesthesia.

The great majority of operations in the United States, that are performed by expert operators, under favorable circumstances, are done under chloroform. Very few such operations last more than half an hour. Indeed, many surgeons, who usually prefer chloroform, select ether for prolonged operations or change to it from chloroform if unexpected delay occurs or if the patient reacts badly to the anesthetic.

Most operations performed by beginners in surgery, under all sorts of adverse circumstances, including the lack of a trained anesthetizer, are performed under ether anesthesia. Such operations are, naturally enough, apt to be prolonged, even to three or four hours in a surprising number of cases which are not reported by the operator. Thus, it may well be that statistics that seem to

show the deletereous action of ether on the kidneys and lungs, indicate rather the absorbtion of a greater amount of the drug, or a longer exposure to chilling of the surface, or a greater depression of vitality, which allows all the other unfavorable factors a longer time and greater opportunity for action.

While almost every paper that attempts to deal exhaustively with anesthesia, dwells more or less on the importance of securing a trained anesthetizer, or, at least one who will attend to his duty, it is not now infrequent that stress is laid on the bullying of the anesthetizer by the operator, as a considerable factor in the prognosis.

We have often witnessed operations at which the anesthetizer, though relatively inexperienced, was proceeding skillfully and safely till, hurried and insulted by the surgeon, he lost his head and became recklessly engaged in the endeavor to get the patient relaxed as rapidly as possible and to avoid reflexes at all hazard.

In our opinion, all operations at which the anesthetic is given by an inexperienced person, as at most clinics and especially in teaching institutions, and all in which the patient is extremely reduced or in which the condition is seriously complicated, should be under the direction of an expert physician who should supervise the anesthetizer and give personal attention to hypodermics and other means of conserving the patient's strength and to certain points of the after-treatment.

It is well recognized that the general practitioner who stands in the way of his patient's receiving the special skill of the surgeon, is guilty of criminal negligence. Conversely, we hold that the surgeon who pretends to possess all the refinements of the art of internal medicine, or to be able to practice them while actively engaged in his own specialty, likewise does his patient an injury, for which there is no excuse.

Civilization and Sanitation.—Dr. Achilles Rose, of New York, takes exception to the sweeping statement that the English is the most highly civilized race. He cites the dark bed-room, the basement and the carpet as marks of sanitary barbarism. Personally, we are inclined to think that the basement is the best practical solution of the problem of getting office room and rooms for the preparation and serving of food into a single house on a narrow lot, though we are ready to admit that the servants who are compelled to spend most of their time in the basement are predisposed to colds and rheumatism. The dark bed-room is inexcusable, even in a tenement house, as it can be avoided by the judicious location of light-wells. The carpet is undoubtedly a trap for micro-organisms and ought, at least, to be excluded from public buildings and especially hospitals, where Dr. Rose has seen it, and where most other physicians have noted its intrusion.

The Peptonizing Power of Hydrochloric Acid.—Albumin passes through three quite distinct stages of digestion in the stomach: 1. acid albumin, 2. propeptone or albumose, 3. Peptone proper. The first stage depends altogether on the action of HCl, the latter stages are also indirectly due to the acid. In cases of weak digestion, from whatever cause, it is only rarely that pepsin is wanting, and the majority of cases of gastric superacidity are essentially due to diminished secretion of HCl. A very direct way of assisting nature is to add HCl to liquid albumins, keeping well within the limits of free acidity, as shown by benzo-purpurin paper. Rudisck's formula for the preliminary digestion of milk is as follows:

Ac. hydrochlor. dil.....	½ teaspoonful
Water.....	1 pint
Milk.....	1 quart.
Bring to boiling point.	

Milk, however, can take up a great deal more acid than this and it is hardly necessary to add the water. It is also of advantage to prepare only enough for a

single feeding. If quite dilute HCl, say a 20% solution of the officinal dilute acid, is stirred gradually into milk, with the use of moderate heat, we can prepare without more than the finest curdling, a tart, digestible and rather appetizing proteid food.

Usefulness of Petroleum.—Robt. Hutchinson, quoted in *Medical Times*, has proved *a posteriori* what must have been *a priori* to every physiological chemist, namely that petroleum is not assimilated by the body. A comparison of the amounts ingested and of the excretion by the bowel, has shown in numerous experiments that no more of the mineral oil is missing than could be accounted for by lack of perfection in the manipulations. Thus, the attempt to use mineral oil as a substitute for cod liver oil, in phthisis, is entirely unjustifiable.

While, however, mineral oils are different chemically and in their action in the economy from vegetable and animal oils, they have quite a wide field of usefulness in therapeutics. Not to mention external applications, medicated or unmedicated, the instillation of pure petrolatum into the eyes in conjunctival traumatisms, its use in the urethra, vagina and lower bowel, there are numerous conditions in which an absolutely bland, unctuous, foreign substance is indicated within the gastroenteric canal, just as throat and nose specialists have used it for corresponding conditions of the upper air passages. Many chronic forms of enteritis, including typhlitic conditions sometimes confused with scolecitis, are well treated in this way, and the oil may be used as a vehicle for bismuth, menthol, salol, salacetol and other antiseptics acting more or less directly on the alimentary mucous membranes.

Sound Advice.—We know of no better rule in taking up with alleged discoveries, than to be guided, to some considerable extent, by the source from which the discovery emanates.—*N. Y. Post Graduate.*

Therapeutic Gleanings.

Sycose is a new sugar substitute, said to have a sweetening power 550 times as great as cane sugar.

Argonin.—A soluble modification containing 10 instead of 4.2% of silver is described by Jellink. It is staple and is used in 1% solution.

Aspidium Spilulosum is praised by Lauren as superior to the officinal species; 4 grains of the extract has proved efficacious against bothriocephalus latus.

Bleeding.—Baginsky employs leeches to the head in severe cases of convulsions in children, uraemic or otherwise, when milder measures fail. Dyspneic and cyanotic symptoms, occurring in pneumonia, and heart disease, are indications for massive bleeding.

Quinine in Malarial Haematuria.—Without wishing to enter the rather bitter controversy as to the efficacy or dangerousness of quinine, we record the observation of Dr. S. L. J. Steggall, in the *Medical Record*, that he has cured three cases with hypodermatic injections of forty grain doses of quinine hydrobromate.

Pilocarpine is recommended by Stephen Harnberger (*Philadelphia Medical Journal*) in gonorrheal and traumatic inflammation of the testicles. Combined with codeine, or morphine, he uses it in biliary colic. It is also claimed to be of value in hiccough and tonic spasm of the diaphragm (strychnine poisoning and tetanus?) Safrantini is quoted as recommending pilocarpine to remove ranula. We personally performed a number of experments to see if pilocarpine increased the gastric secretion, using dogs just before they were executed by illuminating gas, by the Humane Society. We were not able to demonstrate any increase in secretion within periods of an hour.

Current Literature.

Massage and the Relief of Eye-strain in the Treatment of Glaucoma.—Gould advises both for immediate and prolonged use in the treatment of glaucoma, massage and the relief of eye-strain by appropriate glasses. The massage is given daily for 3 to 4 minutes or until the tension becomes normal. The soft parts of the ends of the fingers or thumb are used through the closed lids to palpate the eyes, while the patient moves by degrees the eyeball in all directions. Apparently the venous and lymphatic stacis is broken up and the fluids of the eye put in better circulation. This massage can be given by patient or general physician, and often renders eserine or iridectomy unnecessary even in longstanding cases.

Tetanus Treated by Intracerebral Injection.— Dr. Emory Lanphear, of St. Louis (*Am. Jour. of Surgery and Gynecology*), has collected twenty-two operations for intracerebral injection of serum, with thirteen deaths, and nine recoveries, or a death rate of 59 per cent., while the ordinary mortality of tetanus is 80 per cent.

The germs of tetanus are secured from fresh soil and cultures are made in an atmosphere of hydrogen. The toxin generated by the growth of the germs is injected into horses, beginning with a very small dose, and gradually increasing the amount until the animals can withstand many times the fatal dose of toxin. When this point has been reached the blood of the animal is known to be highly charged with antitoxin, which is the natural antidote of the toxin of tetanus. A quantity of blood is now drawn, the clot is separated from the fluid portion, and the latter which is now known as antitetanic serum is put in hermetically sealed glass bulbs of a capacity of 10 c.c. each.

The immunizing effect of antitetanic serum is almost perfect. M. Nocard experimented on 375 animals by infecting them with the poison of tetanus. Before a sufficient time had elapsed for the disease to develop antitetanic serum was administered to each animal. As a result not a single case of tetanus occurred among the entire number. At the same time M. Nocard had under observation fifty-five wounded animals that also had been similarly infected, every one of which succumbed to the disease.—*Medical Dial.*

Cocainization of the Spinal Cord.—Bier (*Wiener Medizinische Blätter*, Aug. 1899) cocainized the spinal cord in six patients, a healthy colleague, and himself, using small doses (0.005—0.01—0.015) and performing the typical spinal puncture. The smallest dose caused complete loss of sensation over two-thirds of the body, and the largest over the whole body except the head. The anesthesia began in from five to eight minutes and lasted about forty-five minutes, permitting the performance of various operations. In three instances disagreeable after-effects were entirely absent, or present to but a slight degree. In the remaining three instances, as well as in the two physicians, disagreeable after-effects—vomiting and headache—did occur. These were more violent and lasted much longer than is generally observed in chloroform anesthesia, and must have been due to a direct irritation of the central nervous system. Bier's method may be of value in instances in which general anesthesia is contraindicated.

Beta-Eucain as a Local Anesthetic.—Dr. George G. Hamilton reports (in the London *Lancet*, Aug. 26, 1899) ten surgical cases in which he employed 2 per cent. solution beta-eucain hypodermically with best results. No pain, quick healing and good recovery in every case. He narrates briefly his experience with other agents, itemizing objections to most of them, and concludes that "In Eucain "B" the surgeon seems to have in every respect a most satisfactory local anesthetic, and when one thinks of the dread which

many people have of chloroform or ether, and of the number of deaths which are constantly reported in the medical journals as occurring therefrom, it is a great boon to be able to conduct even major operations and to assure the patients that at least there is no danger to life and no fear of suffering from sickness or other disagreeable after-effects."

How Burns Kill and How to Treat Them.—It has long been known (*Med. Council*) that extensive burns are very fatal, but the exact reason has not been understood. Vomiting has been a bad symptom, so bad in fact that the elder Hebra, as well as Koposi, despite their enormous experience with this class of cases, declare that they have never seen a class of burns recover after vomiting had begun. As far back as 1891 there appeared in the *Medical Record* of August 8th a paper by Dr. Lustgarten, in which he shows conclusively that death is due to an animal poison generated by micro-organisms that develop in the eschar. This poison he believes to be either muscarin or something very like it. This is a most virulent poison in small quantities, even five milligrammes causing severe symptoms in a man. The effect of this poison is to greatly irritate the nervous system, and it is from nervous irritation and consequent exhaustion that these victims of extensive burns die. Atropine negatives the effect of the muscarin by paralyzing the susceptibility of the nervous system. He found the practical application of his theory to yield successful results. Cases have been saved after the onset of vomiting, and all by the prompt hypodermic injection of atropine. Improvement begins at once after the first injection, which should consist of about 1-75 to 1-50 of a grain. It may be repeated if necessary within a short time, say an hour, if no effects follow the first dose. Otherwise it is not to be repeated until the effect of the first dose begins to cease.

Lactic Acid in Vaginitis and Endometritis.—Ilkewitsch favors the use of lactic acid in the treatment of vaginitis and endometritis, basing its value upon the fact that the normal acidity and consequent germicidal power of normal vaginal secretion is due to lactic acid. He applies it to cervical erosions and to the diseased uterine mucosa in strength varying from 50 to 100 per cent. and in other cases in irrigating solutions of 3 per cent.—*Journal of Medicine and Science.—Lancet-Clinic.*

A New Treatment of Lupus Vulgaris.—In 1895, Finsen described his treatment of small-pox by protecting the diseased skin against the injurious action of the chemical rays of light, thus diminishing the intensity of the inflammation and preventing suppuration. In the *Phila. Med. Journal*, Vol. 4, No. 15, Dr. Bie, Finsen's assistant, publishes a full account of Finsen's method of treating lupus by concentrated light. The data upon which the treatment is founed are these:

1. The bactericidal property of chemical rays of light, *i.e.*, the blue, violet and ultra violet rays.

2. The power of the chemical rays of light to produce an inflammation of the skin.

3. The power of the chemical rays of light to penetrate the skin.

Finsen makes use of sunlight in summer, otherwise electric light from arc-lamps of 50 to 80 amperes. By special apparatus and lenses the light is cooled and the red and yellow rays are excluded. An area of skin of 1½ centimetres in diameter is treated for one hour each day. About 350 cases of lupus vulgaris have been cared for, with excellent results. Also a smaller number of cases of lupus erythematosus and alopecia areata. The principal advantages of the method are, besides its reliability, its excellent cosmetic effects, the infrequency of relapses and their slight extent, and that the treatment is painless.

The Addition of Chloroform to Alcoholic Solutions of Bromoform renders them miscible with water in any proportion, whereas the bromoform would otherwise be precipitated by the water. For instance:

℞ Bromoformi.....*m.* xviii
Chloroformi.....*m.* xii
Rum.....q. s. ad. ℥ ii
—*Medical News.*

Rheumatism and Cardiac Diseases.—Dr. Bell, in the *Medical Monograph*, says:

"In all cases of rheumatism look out for heart complications daily and on appearance of oppression, palpitation, or dyspnea even without a murmur, the salicylate of soda or ammonia should be pushed, large doses of alkali with small doses of digitalis and this persisted in together with an occasional mercurial purge until all cardiac symptoms subside. Treatment should be kept up for two to four weeks after all acute symptoms subside."

But in regard to salicylates, we must not forget the experience of W. Henslip Dickinson of England, who insists that their apparently satisfactory action is offset by a greater liability to valvular defects than follows the older treatment by simple alkalies sufficient to neutralize the urine.

To Abort a Cold.—Max Nassauer asserts that an incipient cold in the head can be checked if the nose is thoroughly rinsed out with a weak (pale pink) solution of potassium permanganate, which seems to have a specific action upon the germs of coryza. It checks colds in the first hour or so. After blowing the nose vigorously, both nostrils are well rinsed out with the solution, the fluid being allowed to run out through the other nostril and through the mouth. Each nostril is wiped out with cotton on the finger. A small dry plug of cotton is then pushed well up into each nostril, and the nostrils are filled with the weak solution, with the head held back, the cotton being allowed to soak it up. The plug is left undisturbed for about an hour, when it can be expelled by blowing the nose. Even an established cold is favorably influenced by this treatment, but it is most effective when the sneezing, tickling and increased secretion announce the onset of the attack.—*Practioner.*—*Lancet-Clinic.*

Cinchona v. Quinine.—The *Chemist and Druggist* (London, Sept. 23, 1899), publishes this interesting editorial note: Surgeon-Major Prain, I. M. S., who succeeded Sir George King as Curator of the Botanic Gardens, Calcutta, has been home for a holiday recently, and we had a call from him one day this week. Major Prain is an alumnus of the University of Aberdeen, and apart from his connection with botanical subjects he has taken keen interest in Cinchona questions during his residence in India. In the course of our conversation with him Major Prain gave us some remarkable instances of the success which has followed the use of the amorphous alkaloids of cinchona in the treatment of fevers in India. The superior properties of cinchona febrifuge in the treatment of these fevers is really due to the fact that the febrifuge contains a large proportion of the amorphous products, and were it not for the fact that the administration of excessive doses of the febrifuge had helped to give it a bad name on account of its nauseating properties there is no doubt that long ere this the febrifuge might have displaced quinine, at least in official circles, in India. That the anti-periodic and tonic properties of cinchona do not reside especially in quinine has long been conjectured by the therapeutists, many of whom maintain that a preparation representing the bark in its entirety is much more effective. Major Prain mentioned to us a circumstance which is strong evidence of this fact. For some time a charitable dispensary in Bengal has been in the habit of getting from the Government quinine factory a product from quinine manufacture which represents substantially everything except the quinine that is in cinchona-bark, and this by-product given in correct doses is much preferred as an anti-periodic by the native to quinine, and undoubtedly is as effective a cure.

Pneumomia.—Dr. H. A. Hare makes the following discrimination in regard to cardiac stimulation: Aid the circulation if it needs it; sometimes when we are tempted to give stimulants if we feel our own pulse it will be a surprise to find our own weaker than the patient's, (the rule then would be for the doctor to take a drink first and later stimulate the patient), or rather the patient's heart is over-worked and really needs sedation by means of the ice-bag.

Digitalis good, but slow and prolonged, loses much of its regulating power over the heart in the presence of high fever, so have the temperature down before giving. Give doses far apart, eight, ten, or even twenty-four hours, be sure of the quality of the drug.

Belladonna in 5 to 10 m. doses every 4 or 5 hours, if the pulse be gaseous and relaxed.

Strychnine, with atropine, only good for a pinch, not for any length of time, as it acts as a whip or irritant to the nervous system.

Coca wine for prolonged collapse. Fine old brandy for old patients who have feeble circulation. Nitroglycerine if the arterial tension is high, if venous engorgement bleeding.

Oxygen gas may be used in difficult respiration, its value problematical, but it makes the patient more comfortable, perhaps, by its mental effect.

(Digitoxin is now highly recommended by many pharmacologists as the active principle of digitalis.—Editor).

Saline Infusions in Pneumonia.—Under the title, "Infusion of Salt Solution Combined with a Special Method for the Administration of Oxygen Inhalation as a Treatment in Pneumonia," Dr. Clement A. Penrose reports in the *Johns Hopkins' Hospital Bulletin* for July (*Albany Medical Annals*) promising results from the method described. The infusions of salt solution were given in the usual fashion employed in the hospital, *i. e.*, the salt solution at a little above body temperature is poured into a graduated bottle, from the bottom of which runs a long rubber tube. The needles, which are introduced under the breast or into the subcutaneous tissues of the thighs, etc., are connected with this tube. The pressure is regulated by elevating the bottle or by means of a rubber bulb, with valves, which is attached to the stopper of the bottle, and thus air can be forced into the space above the salt solution. At intervals a careful examination of the heart is made, especial attention being paid to the second pulmonic sound, with instruments in readiness for instant bleeding if this becomes too accentuated or murmurish in quality. Inhalations of oxygen in connection with infusion are given according to a special method, which is as follows: In place of the delivery nozzle usually adopted, a glass funnel is substituted, which is held by a framework resting on the bed about two inches from the face, and supplies oxygen to both mouth and nostrils without interfering in any way with the breathing. The oxygen is passed through a wash-bottle containing a pint of hot water in which has been placed one dram of an inhalation mixture, the formula of which is:

℞ Creosoti (beechwood)
Olei terebinthinae āā f ʒ ss
Tinct. benzoini Comp. .. f ʒ j

The inhalations are given at intervals whenever lips or finger-tips become bluish; are continued until the color is normal, usually from ten to fifteen minutes in those who give a good reaction.

The first trial of this method was made with three hopeless cases, one of whom recovered. In other cases, both in the hospital and in private practice, there has been a most gratifying success. Dr. Penrose remarks that patients who have been previously infused with salt solution react much better and remarkably more quickly to oxygen. This is the natural result of the increased quantity of blood circulating through the lungs, with augmented oxygen capacity.

Typhoid Bacilli in the Urine.—Richardson, (*Journal of the Massachusetts Association of Boards of Health*, July, 1899), by means of a series of investigations, has found that urotropin, 10 grains three times daily, will cause the disappearance of typhoid bacilli from the urine oftentimes in one or two days. He advises that careful search for bacilli should always be made, for bacilli, in 25% of cases of typhoid, persist in large numbers in the urine for weeks, months, years after convalescence.

Typhoid Treatment.—The antiseptic and eliminative treatment of typhoid fever was used in forty-three cases by Dr. Edward C. Senfert (*New York Medical Journal*), without a single death. Not a grain of any coal-tar antipyretic nor a single drop of alcohol was given internally. Rest in bed, milk diet, cold sponging with equal parts of alcohol and water, 1 grain of calomel every two hours for twelve or fifteen doses, followed by salol in 5 gr. doses every 2 hours for one week, then naphthalin in 5 gr. capsules every 3 hours for the second week; for the third week 2½ grs. of carbonate of guaiacol are given every 3 hours until convalesence.—*N. C. Med. Journal.*

Cystitis in Infants.—Examination of the current text-books of pediatric practice (*Pediatrics*, Oct. 15, 1899) will show a notable absence of comment upon this topic. The disease is either dismissed with three lines or entirely ignored. Some interesting light has been cast upon one phase of the subject by several recent foreign publications, describing an acute infection of the bladder in infants, due to the bacillus coli communis.

The source of the germ appears to be usually the intestinal tract. After apparent convalescence from an ordinary summer diarrhea, the baby again sickens, with languor, loss of appetite, and a rapid and marked rise of temperature. The trouble may set in with or without chills. Remissions are not usually accentuated. It is the high fever which, as a rule, first attracts the mother's attention. Thoracic organs are found normal, though bronchitis may be co-existent, as a misleading indication of broncho-pneumonia. The pharynx is perfectly clear. The abdomen is soft, the bowels are not much deranged, and, strangely enough, the urine may pass without noticeable discomfort. Deep pressure over the pubes causes distress. The temperature is alarmingly high, at times reaching 105° F. and more, and the pulse is "septic," running late in the disease even to 180 or 190 per minute. The haste of the practitioner and the difficulty in small infants of saving the urine usually cause a urinary analysis to be postponed or forgotten, and the fever runs on a week or even ten days with only a conjectural diagnosis.

Recovery without treatment is precarious. Some unrecognized cases have died of consecutive pyelo-nephritis. If the urine be examined, it is found to contain a heavy trace of albumin, many epithelia, many pus-cells, and numerous clumps of short, thick rods—the bacillus coli. The pus-cells often show extraordinarily distinct nucleation. Casts are absent.

Treatment with irrigation and hydragogue diuretics has proved gratifying and prompt. In a recent case in this city (a boy of 4 months) ¼ per cent. lysol irrigations were used, with large draughts of weak lemonade and tea by the mouth, and small doses of sodium benzoate and urotropin. Improvement was speedy and recovery complete within a few days from the beginning of the treatment, though the disease was not recognized until a consultant was called on the eighth day, and the baby's condition was then alarming. It is believed that as soon as urinary analysis in babies is more systematically made, "coli" cystitis will be found more frequent than has been suspected, and many cases of conjectural "typhoid" and "broncho-pneumonia" in sucklings will be referred to a cause heretofore overlooked.

Summer Complaint.—B. D. Eastman, in *Medical Monograph*, suggests the following general routine for treatment:

1. Remove all noxious substances from the gastro-intestinal tract, using for this purpose rhubarb, castor oil, of the mild unirritating kind.

2. Disinfect and restore proper function, with calomel, small doses, 1-10 gr., salicylic or carbolic acid, salol, salophen, sinc sulphocarbolate, copper arsenite, bismuth, eudoxin, etc., washing out the stomach, flushing out the colon, easily digested foods.

3. Relieve pain and nervous irritability by paregoric in children, deodorized tincture of opium in adults, may be combined with a cathartic, compound tincture of opium, bromides, chloral, chloroform water, camphor.

4. Equalize the circulation by using the warm bath, dry heat in some cases, inhalation of oxygen in extreme cases, water freely for the thirst no matter if vomiting continues, salt solution in the colon or into the cellular tissue, a heaping teaspoonful of salt in a quart of boiled water at 120° F.

5. Support the patient.

Tuberculous Adenitis. — Dr. George Morgan, in a very complete presentation of his experience at the Children's Hospital, Brighton, in the current issue of *Pediatrics*, summarizes his treatment thus:

For those children who are severely handicapped by the inheritance of a tendency to tuberculous gland disease a great deal can be done, both in the shape of prevention and cure.

As regards prevention, it can scarcely need emphasizing, at this date, that all milk should be boiled and that the child's environment should be watched with the greatest care. The child should not be allowed to visit tuberculous houses or rooms where phthisis has been treated, especially if the room is undergoing repairs, or if the walls are being stripped. There can be no question as to the advisability of a frequent examination of the throat, naso-pharynx and gums. Loose teeth, carious teeth and stumps should be removed; cavities should be thoroughly disinfected and filled. Adenoids, if sufficiently pronounced to cause symptoms, should be promptly removed, likewise enlarged tonsils, especially if liable to repeated attacks of catarrh or if they have an irregular surface.

If tuberculous glands appear and they are discovered in an early stage undoubtedly a great deal can be done for their cure without operative interference. As regards the general constitutional treatment I have no new suggestion to offer.

Before commencing the cod liver oil, which, in the majority of cases, does so much good, it is often well to give a little grey powder and alkaline mixture before meals for a few days, and then whatever suits the child best should be the tonic selected. For the majority, iodide of iron with malt is good, and is generally liked by the children. Of far greater importance than any drug is abundance of fresh air and sunlight—if possible, at the seaside. Tepid sea-bathing, followed by friction, is good; in a word, all means that tend to improve the child's general health and raise his tone should be adopted.

It is the local treatment in which I am specially interested and as to which I wish to make a suggestion. Teeth, tonsils and naso-pharynx should be attended to. Stomatitis and small ulcers of the lips and gums should be promptly treated. In treating the glands themselves we should always think of the part of the skin or mucous membrane the diseased gland represents, and then apply the remedy to that spot. For instance, the gland at the angle of the jaw and the upper deep cirvical drain the tonsil, therefore apply the remedy to the tonsil. I was first led to try this plan accidentally.

I prescribed for a young lady of twenty, who was suffering from chronic pharyngitis, an application of iodine and iodide

of potassium in glycerine, to be painted on the tonsils and pharynx each night. She returned in six weeks with her throat trouble much better and delighted at the disappearing of an enlarged gland at the angle of the jaw which had been in evidence for over two years. I at once started to use the application in my hospital and private practice, and in the majority of cases with the greatest benefit. In many cases its action was very marked.

A late colleague of mine at the hospital had a patient of 5 with a number of markedly enlarged glands of the deep cervical group and also the suprahyoid gland. The skin was not adherent, and they were freely movable. Dr. Whittle was about to excise them, but postponed the operation that the above plan of treatment might be tried first. For six weeks the pigment was painted on the tonsils and on the gum below the lower incisor teeth. At once improvement set in; eventually the glands entirely disappearing. The application is composed of iodine, 12 grains; potass. iodide, 15 grains; ol. menth. pip., ♏ ij; glycerine, ℥ j.

It will not affect all glands, but if applied before softening takes place it undoubtedly reduces the majority. I have been using it now for seven years in a large number of cases, and always adopt that line of attack first. Comparing the experiences of the last seven years with those of the seven years previous, I have no hesitation in saying that the results have proved very gratifying. For the superficial glands draining the skin I use iodide of potassium ointment, well rubbed into the skin, representing its surface of absorption.

The old method of direct injection of iodine into the gland invariably spoiled the syringe, injured the child and damaged the surgeon's reputation. Nor need it surprise anyone, for a gland that is busy fighting its internal foes is very likely to throw up the sponge when it receives an unfriendly stab from the outside; hence the importance of shielding the gland as far as possible from mechanical injury and severe cold.

If after a fair trial of constitutional and local treatment the glands still increase in size or show signs of softening the sooner they are removed the better. For those which are completely broken down it is better to incise the capsule at once and scrape it out with a sharp spoon, then dress the inside of the capsule with pure carbolic acid; aftewards, if the capsule can be teased out, so much the better; but it is a pity to waste time trying to dissect out the remains of a gland that is, in reality, only a bag of pus. It is certain to burst, and by the dissection the connective tissue around the gland has been opened up, into which the tuberculous pus is distributed and may be carried to other glands.

In excising glands, no pressure should be made on the gland, either by the fingers or by pressure forceps of the various special types. If several in a group are affected, the lower one should be taken first, working up in the opposite direction to the lymph current. The danger of pressure is that some of the tuberculous material may be pressed from the medulla of the gland into the efferent vessels, the valves of the lymph vessels allowing the current to pass by way of the efferent vessels and preventing its passage into the afferent vessels. To my mind this is the only explanation of a quick relapse a few days after the excision of glands. I have seen this happen not infrequently both in my practice and in the practice of other surgeons. Perhaps the dissection has been a very careful one: the gland has come out without bursting, the wound has healed by first intention; but to the chagrin of the surgeon no less than to the disappointment of the patient, in seven or fourteen days other glands of the same series appear as large as, or even larger, than the one excised. Since using greater care in avoiding pressure on the gland, I have certainly had little or no trouble from this source.

Book Notices.

Elements of Clinical Diagnosis. By Prof. Dr. Klemperer, Berlin. Authorized translation, (2d American edition from 7th German) by Nathan E. Brill, A.M., M.D., and Samuel M. Brickner, A.M., M.D., New York. Published by the MacMillan Co.; 292 pages, including index and 61 illustrations.

The volume begins with an elaborate scheme for recording the past and present of the patient, from which, however, we miss a space for occupation, and then passes to a chapter rich in hints as to obtaining an anamnesis and in noting, chiefly by inspection, the general condition. Febrile diseases, urine, blood, animal parasites and the examination of the various systems—apparatus, more properly—are discussed in separate chapters. The chapter on disorders of metabolism is especially valuable. The Roentgen rays are very briefly alluded to, indeed this means of diagnosis has since been materially extended by Boas of Germany, Turck of Chicago, Benedict of Buffalo, and other internists, not to mention the still more accurate and practical results achieved in surgical cases. Diagrams are used to indicate the points of application of electricity, and analytic schemes are laid down for analysis of urine, gastric contents, etc., which are, for the most part, well within the possibilities of the general practitioner. The work is an excellent, though condensed, review of diagnosis, and author and translators, as well as publishers, have reason for mutual congratulations.

Diseases of the Nose and Throat, by D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College. Philadelphia: W. B. Saunders, 1899. Price, $4.00, cloth; $5.00, sheep and half morooco. 646 pages, including index, with 175 illustrations, 23 in colors.

Following the modern custom, the author begins with the anatomy and physiology of the parts; chapter II deals with illumination and examination; chapter III with general pathologic conditions encountered in laryngologic practice. A practically complete showing of instruments is a feature of the book, due to the courtesy of manufacturers, and the various manipulations are elaborately figured, while most of the colored plates are reproductions of specimens, microscopic and macroscopic, from the author's personal experience. The discussion of each organ, as the phrynx, larynx, etc., begins with a list of the diseased states to be anticipated. This is a point of greater importance than might appear. The late Henry F. Formad used to say that, given two men, one an expert in diagnosis but poorly equipped as to pathology, and the other of mediocre ability both as to diagnosis and pathology but perfectly familiar with the list of pathologic states liable to be encountered in various parts of the body, the latter would usually make the more accurate diagnosis.

It is not to be expected that so comprehensive a work will receive the uniform agreement of laryngologists, nor would it be practicable to select particular subjects for this sort of criticism, but we believe that both laryngologists and general practitioners will find it a useful guide.

Atlas of Diseases of the Skin, including an Epitome of Pathology and Treatment. Prof. Dr. Franz Marcek, Vienna, authorized translation, edited by Henry W. Stellwagen, M. D. Published at Philadelphia by W. B. Saunders, 1899. 199 pages of text, 63 colored plates, 39 full page half-tone illustrations. Price, $3.00.

The main feature of the work is the series of colored plates, which constitute, practically, a clinic on skin diseases, always on hand for reference. The text while concise is fuller than might be expected and is much more than a commentary on the cases presented. Many formulae are given, both in the apothecary's and the metric units. Thus, while the book makes no pretense to being a library for the dermatologist, it is a valu-

able addition to the literature already on hand and, for the general practitioner, it affords an inexpensive and convenient reference work for the diagnosis and therapy of the miscellaneous skin cases which he is likely to encounter, including also, some rare conditions not apt to be seen in this country.

THE HYGIENE OF TRANSMISSIBLE DISEASES—THEIR CAUSATION, MODE OF DISSEMINATION AND METHODS OF PREVENTION. By A. C. ABBOTT, M.D., Prof. of Hygiene and Bacteriology, University of Pennsylvania. Published by W. B. Saunders, Philadelphia, 1899; 311 pages, including index and a number of charts, tables, maps, etc. (Price, $2.00)

To us, this book is unique, bearing the same relation to bacteriology that ordinary works on hygiene do to physiology. The chaptar on causation of disease includes many statistics which we have, personally, found exceedingly difficult to obtain from ordinary sources. For example, one may learn the proportion of a mixed population that die from this or that disease, the influence of race, occupation, density of population, size of dwelling, time of year, etc. There is but one fault to be found with these statistics, namely, that the different tables are largely local compilations and that they are scattered so that we cannot compare the diseases of different parts of the world, without an unknown factor of special circumstances, modifying the positiveness of our deductions. This is by no means a censure of the author but of the present lack of method of keeping vital statistics. Graphic representations of death-rates, etc., are made in several instances, and the epidemics of typhoid of Lausen, Switzerland, 1872; of Wittemberg, 1882; of Plymouth, Pa., 1885; and of Philadelphia, 1897–8; are fully discussed, with maps to show the water infection.

We note that the author does not accept the extreme view of the conveyance of malaria by the mosquito alone, nor of typhoid by flies, and that he is silent as to the etiologic importance of the Fourth of July, in regard to tetanus. He accepts rabies as a specific disease. Animal parasites are more fully discussed than is usual in works of this nature, and the life cycle of the enterozoa is given with peculiar clearness and illustrated by diagrams. Most authors, however they come to discuss this question, do so in such an incomplete manner as to leave the reader puzzled and uncertain. When once clearly represented to the mind, it is a very simple phenomenon and we are glad that Dr. Abbott has dealt with the subject so succinctly and yet fully.

Just about a quarter of the book is devoted to methods of prophylaxis, mainly disinfection, and the varions modern methods are illustrated and their relative merits set forth. It is so seldom, in these days of prolific writing, that a book has an excuse for being, except as it is better printed and more beautifully illustrated than its predecessors or as its author has managed to introduce a few novelties of relatively little importance, that we feel especially gratified in introducing this work to our readers. It has not only filled a want, but a want that most of us have been unconscious of, except as we have groped in the dark for statistics or other information that we could not find.

EXTEMPORANEOUS MILK FOOD.—Dr. Theo. W. Peers (*N. C. Med. Journal*) recommends

Fresh milk	6 oz.
Boiled water	6 oz.
Lime water	½ oz.
Cream	3 teaspoonfuls
Milk sugar	4 "

for a child 3 to 9 months old.

DEATHS FROM ANESTHESIA.—Dr. Gallant furnishes statistics of 219 deaths from anesthesia.

15 occurred at the commencement of inhalation;

99 before complete insensibility;

70 during the period of insensibility;

35 after the completion of the operation.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VIII. NEW YORK, NOVEMBER, 1899. No. 5.

Original Articles.

FORMALIN:

ITS GOOD AND BAD QUALITIES.

By ELY VAN DE WARKER, M.D., Syracuse, N. Y.

In 1895 the recommendation by a consultant of a five per cent. solution of formalin as a wash for an abscess cavity, and its thorough employment by the physicians in charge of the case, fixed my attention upon the various possibilities of formalin, good and bad. This is the only instance of which I personally have any knowledge of a solution of that strength being applied to the living flesh as a germicide. It is needless to say that the effect was disastrous in the extreme. The pain was intense and of long duration, and the resulting slough was perfectly characteristic of formalin; in its superficial parts, where it was allowed to dry, it was of a dark brown color, fading to a pearly gray in its deeper and moist parts; it was tough and of the consistency of wash leather, and had a close and tenacious blend with the normal tissues below, and was a tedious length of time separating. The firmness and leathery consistency and the strong blend with the normal tissue give a character to the slough of formalin that would identify it under all circumstances.

This may be called the age of therapeutic exaggeration. In the old days a chemical product found its way gradually into use or disuse according to its worth. Now these things bound into fame with a reputation ready made. I think that this is due to the fact that these things are made by great commercial houses that not only manufacture the product but have special facilities for making its reputation.

When formalin was first introduced we were told fabulous things about its germicidal powers under seemingly impossible conditions. As a trustee of our local library and as a member of the school board I came near putting the tax payers of Syracuse to considerable expense. If only a part of what was claimed about the germicidal qualities of this chemical were true, I had here an ideal disinfectant for books and of which some of the books were sadly in need. But luckily before building a disinfecting apparatus I thought it more prudent to put these statements to a test. I will not consume your time with the details of my experiments, but the results were that I found it fell short of what was claimed for it. Even the covers of book were not completely sterilized and the inner leaves were not effected at all. I am still using it in disinfecting the rooms of my hospital, but I am not satisfied but what the sulphur dioxide, which we formerly used, is better.

In the second edition of Merck's 1896 Index it is characterized as non-irritant, non-toxic, and non-corrosive. This is absolutely untrue. It is powerfully irritant, it is very poisonous, and it is actively corrosive. Its gas, in almost any degree of diffusion, is irrespirable and its solution needs to be carried to greater attenuation than corrosive sublimate to be applied with safety to living tissue.

In the first place, since the commercial solution of formaldehyde, known as formalin, is coming into quite general use by the lay public, let us first demonstrate it as a poison. I have two cases to report. One may be familiar to some of you as it

received editorial comment in the *New York Medical Journal.* The case is reported by Dr. Charles Bock, of the Indiana School for Feeble-minded Youth, in the *Fort Wayne Medical Journal* for July, 1899. On the farm connected with the Institution a four per cent. solution was employed upon seed potatoes for the purpose of destroying the germs of the potatoe scab fungus. A "low grade imbecile," twenty-six years old, drank from three to four ounces of the solution. He at once complained of severe pain in the stomach and began to vomit, stained with blood. Large quantities of albumen water were given and further vomiting was induced by apomorphia hypodermically given. In two hours time the man seemed but little worse for the accident. Albumen water was given and he continued to improve until sixteen hours after taking the poison his pulse began to flag. Strychnia, nitroglycerine and sparteine were resorted to. At the twenty-ninth hour his respiration was 40, with a still failing heart. Saline solution was used intra-cellular and intravenous. During the last hour of his life there was some cyanosis. At the post-mortem examination the upper and middle third of the esophagus showed slight inflammation. The stomach contained four ounces of dark fluid free from formalin. "Its walls were in some places more than an inch thick edematous. The cardiac extremity very red and inflamed. The remainder of the organ was necrotic, dark and tough, and cut like old leather. In the duodenum the inflammation was confined to the valvulae conniventes."

We observe from this case that it exerts its force as a poison in two directions, its powerful effect as a tissue destroyer and as a fatal depressor of vital nerve centers, and this in a solution as weak as four per cent. of formalin, equivalent to less than two per cent. of pure formaldehyde. I do not believe, owing to its peculiar and almost immediate effect on living tissue, that we have any known antidote to its direct effect.

The second case is one of my own, and has never been reported. A lady, 46 years old, was admitted to my hospital suffering from an unoperated abscess of the right iliac fossa and broad ligament of over a year's duration. She was very much reduced in flesh and vitality, and had allowed herself to drift down the easy current of drug addiction, until she was taking five grains daily of morphia hypodermically given by her own hands. I declined to operate until the crying demand for morphia was overcome, and in this she offered to do her share. Among the drugs which I have found useful in procuring sleep in these cases is paraldehyde; and as I needed to replenish my stock I sent a written order to a druggist for two ounces. The clerk labelled the bottle correctly with my writing before him, and then with the automatism of associated ideas filled the bottle with formalin. The patient received a full teaspoonful at the hands of the nurse. The patient at once screamed with pain, and the nurse, perfectly familiar with formalin, knew at once from the smell of the teaspoon that a mistake had been made. It was but a few moments when the patient was swallowing copiously egg albumen. When I arrived at the hospital twenty minutes later she had vomited freely, the ejected matter smelling strongly of formalin. The burning pain in the mouth, fauces and esophagus and stomach was severe. She continued to vomit at short intervals, the matter consisting mostly of mucus or unchanged egg albumen, occasionally showing flakes of blood. As I had not then read of the other case I attributed the alarming depression of the heart to her weakened condition, pain and fright. Fortunately her heart responded favorably to heart stimulants, and in a few hours the most dangerous consequences of the accident were averted. We had a very painful condition of the mouth and throat to contend with for several days. The vomiting continued with gradually lengthening intervals for about a week when

the active symptoms of gastritis ceased, leaving a delicate condition of the stomach which required careful feeding for about a month. The only condition that saved my patient was a very full stomach, the nurse stating that the contents when first ejected measured a quart.

I have no doubt but that we will in a short time have an abundant list of reported cases of formalin poisoning. I would recommend a different plan of treatment from that usually followed for irritant poisoning. Albumen appears to have no effect in arresting the corrosive action of the poison, as it forms no chemical union with it as it does when in contact with corrosive sublimate. My plan would be to dilute the poison rapidly by large quantities of water, hot preferably, as hot water releases the gas held in solution in the formalin; but do not wait if hot water is not ready. Induce vomiting by apomorphia if vomiting does not occur spontaneously. Again repeat the large dose of water, and again if necessary. Stomach lavage would be a good method if the tube could be procured without delay, always bearing in mind the wounded condition of the fauces and esophagus. Equally important as the local action of the drug, measures must be taken at once to sustain the heart, as it appears that death quickly approaches from that direction. Like with wood-alcohol, I think, when we have a larger experience with formalin as a poison we will find that the most dangerous effects will be expended upon the nervous system.

Useful with Precaution.

For surgical purposes formalin has great value, but it is necessary to know what strength of solution may be safely applied to living tissue and where such a solution may be applied safely. My first knowledge of formalin as a germicidal application occurred three years ago. A prominent consulting surgeon directed a five per cent. solution to be used to wash out abscesses in a case of pyemia. The advice was followed, with the result that extensive sloughing was caused which added greatly to the suffering of the patient and to the damage caused by the abscesses.

The slough caused by formalin is very characteristic. It is tough and leathery, at first of a pearly whiteness, and on exposure to the air appears to oxydize into a firm resistant surface of very nearly a black color. It is not cast off as other sloughs are, but will cling to the underlying surface indefinitely. There is another product of its destructive effect upon tissue which is as characteristic, but is not what we technically know as slough, caused by the use of attenuated solution which I shall describe presently. A two per cent. solution will cause a superficial slough, and a one per cent. solution is quickly destructive of fresh granulation. I am using solutions of one-tenth to one-fifteenth of one per cent. to wash out abscess cavities within the pelvis. Temperature due to abscesses of this character will rapidly fall when so flushed out and mal odors corrected. But since I know more about its dangerous effects upon the nervous system I intend to be sure that I have good drainage so that a dangerous quantity of the solution will not be retained and absorbed. I expect to hear of serious poisoning from this cause if precautions are not taken. No solution, however weak, ought to be applied to any surface which we expect to unite by primary union.

Stitch hole abscess along lines of union ought never to be washed out by it, nor ought it to be applied to surfaces that we expect to heal by granulations. By its effect upon the capillary circulation, or by its effect upon terminal nerves, solutions that appear safe for all other purposes have the power to arrest the repair process, and are therefore to be avoided in all cases in which we desire to promote this result. Subcutaneous fat appears to offer a very feeble resistance to the constringing effect of the solution. This is the result to which I referred above, as not being what we technically call a

slough. I would call it antiseptically preserved fat. I had an opportunity of getting well acquainted with it in a remarkable case that demonstrated both the good and the bad qualities of formalin.

GOOD QUALITIES OF FORMALIN.

The case was one of extra-uterine pregnancy, passed term. The child was supposed to have been dead two weeks and that thrombosis had occurred in the placental vessels. An incision in a position most favorable to the extraction of the child brought us directly over the placenta which was diffused over the anterior portion of the sac. A careful snicking of the surface proved that the placental circulation was too active to attempt its removal. The line of incision was therefore carried above the seat of the placenta. An exploration with the hand showed that the placenta, an enormous mass, was implanted mainly in front, extended to both sides and dipped downward into the pelvis. The sac was firmly adherent everywhere. As its removal was obviously impossible, the question was, what to do with it? As such a mass could not safely be left to disintegrate and discharge through a drainage tube, I resolved to leave the abdomen open. Of course the intestines were shut off by the walls of the sac. The large opening was closed by masses of sterilized gauze. Remembering the contracting hardening effects of formalin I began a systematic flushing of the cavity with a 1 to 1000 solution. As that strength caused severe smarting of the edges of the wound, the strength was lowered to 1 to 1500. There was not the slightest trace of bad odor, and in three weeks' time the placenta was pulled away with forceps in four or five large masses. The contraction caused by the formalin solution on the placental mass severed its connections with the surface of the sac. During the period the patient at no time seemed in danger and suffered from a very moderate temperature. In whatever way my method may be criticised it was certainly a triumph of asepticism. When I came to close the abdomen I observed the change caused by the formalin in the edges of the wound. The edges were pearly white and of the consistence of old cheese. A sharp curette scraped it away to the thickness of a quarter of an inch. I had a freely bleeding surface, but it failed to unite, and I was obliged to pare away a continuous strip three-eights of an inch thick before I secured primary union.

In consequence of what I had observed of its rapid destruction of tissue, I have applied the full strength of commercial formalin to epithelial cancers of the skin. It works more rapidly than arsenical paste, and has the further advantage of being safe to apply on the lip. In one case of epithelioma of the lower lip the patient declining operation, the entire mass came away in four or five applications and all induration was sloughed away in about three weeks. Dr. Randall, of this city, completed the work during my vacation.

One cancer of the ear and one of the side of the neck gave opportunities for further satisfactory trial.

As healthy tissue is brought under the action of the formalin the applications cause severe pain and the thorough application of a fifteen per cent. cocaine solution is very necessary before the formalin is applied. The applications were made with a small tuft of cotton on a probe, the surface was allowed to dry. No covering was used. The slough was dry and hard and came off entire. The resulting surface healed rapidly but with little scar and no contraction. I have applied it in one case of epithelioma of the cervix uteri. It was too recently to know the result. The germ theory of cancer is rapidly taking shape. It may be true, and if true the most puiscent germ destroyer yet known to us has some claim to a trial. I shall continue its use in suitable cases and I hope that some of my hearers will give it a trial.

In preparing cat-gut I have a very simple method which has given me excellent results. I first place the new gut in sul-

phuric ether for almost a week, changing the ether every other day. This removes the fatty matter and causes it to more readily receive the watery solution. From the ether bath the gut is wound directly upon spools and transferred to a bath of three per cent. formalin. Here it remains one week, when it is removed and boiled for fifteen minutes in water. The non-chromatised gut resists absorbtion much longer than that prepared in any other way and the chromatised will last from six to eight weeks. If by any chance we suspect a spool has become contaminated it may be reboiled without losing strength. Gut so prepared will give perfect bacterial tests. I keep my stock in wood alcohol, as I believe it to be a more perfect protection than grain alcohol.

In disinfecting a room with formalin gas no apparatus is necessary other than an open tin pan placed over an alcohol lamp. One or more pans holding a quantity of formalin proportioned to the size of the room, cracks are stopped up, the lamps lighted, and the door closed. The door must be very perfectly closed or the gas will leak into the hall or other rooms and make them very unpleasant to stay in for several hours. The vapor also renders the gas more efficient as a germicide. I think one reason why formalin gas has not come into more general use as a disinfectant is the prevalent idea that an expensive apparatus was necessary. Such, however, is not the fact, and I would advise all to try my simple method of room disinfection.

I hope my brief experience with formalin will lead others to employ this many-sided and very useful agent in the ways I have pointed out, always bearing the fact in mind that it seems as potent for harm as for good.

Tang Kui is the name of a Chinese plant whose root has long been used by the Chinese as an emmenagogue. It is said to be efficient without possessing abortifacient properties. (Hirth, *Münch. Med. Wochenblatt.*

*PAPAIN IN CHILDREN'S PRACTICE.**

By Dr. Goliner, of Erfurt.

Acute gastritis in infants, as is well-known, shows certain peculiar influences due to the nourishment from breast or bottle. In the mildest of these disturbances, designated "simple dyspepsia" by Bednar, the child's appearance is but slightly affected, there being noticeable at most some pallor and light shadows about the eyes. Vomitting follows nearly every nursing, the milk frequently returning in uncurdled condition, thus proving that the gastric juice has lost its first effect on the milk, to coagulate the casein. Soon after the vomitting spells begin, the intestinal evacuations increase abnormally also, and there may even be no vomitting, the abnormal evacuations alone showing the presence of intestinal catarrh. The feces becomes more liquid, irregular, foul in odor, and the yellow color becomes green owing to the change of bilirubin (It is questionable whether the yellow color of normal feces is due to bilirubin.—Ed.) to biliverdin; there is an accompanying emission of gases, abnormal decomposition products, known as "Blähung" (flatulence). Even the most rational food, mother's milk, can be digested only in a certain proportion to the gastric juice; any excess of the food over the limit digestible is either vomitted or passes on unchanged, and reappears, after journeying through the intestinal canal, in the evacuations; the latter are thereby increased in frequency and quantity, and microscopically we can discern the characteristic milk curds, enveloping milk globules, and containing albumin and fat. (The author seems to underestimate the overwhelming importance of intestinal as compared with gastric digestion.—Ed.) It now depends on the constitution of the digestive organs, or on the amount of non-absorbed food, whether a

*Translated from *Der Kinder-Arzt* for the American Therapist on special request.

normal condition is gradually re-established. If the undigested excrement continues, then it will become subject to the action of the bacterium coli commune, especially in the large intestine. This disturbance of digestion and absorption can lead only to an increase of the irritating matter, and thus—to quote Biedert—through this vicious circle the cause of the disease is aggravated by the disease itself. The sour odor from the mouth, the mucus in the vomit (usually also sour), the fetid evacuations, the flatulence and the fetid gases expelled through the anus—all these manifestations are the clinical expressions of an abnormal chemical process.

The therapy for infantile dyspepsia has always been primarily dietetic. The method is familiar to every practitioner and requires no special description here. But we desire to oppose the current assumption, that simple dietetic treatment will suffice to abort this dyspepsia in all cases. Henoch long since, and quite correctly, pointed out that many cases of dyspepsia continue despite regular nursing (which is the most rational dietetic remedy), while other children, artificially fed, respond favorably to cow's milk in obstinate dyspeptic attacks. Even the favorite oatmeal gruel and thin flour soup do not protect against dyspepsia. Calomel, so frequently recommended in small doses, from its pharmaco-dynamic properties, can only act as an antiferment, while it cannot be definitely claimed that this drug has a favorable influence on the catarrhal state of the mucous membranes. Least of all has calomel proved a valuable digestive aid, *i. e.*, an agent accomplishing energetic digestion of albuminates in the stomach through increased secretion of the gastric juice.

Any remedy will, therefore, be welcomed that possesses decided antiseptic and digestive properties while also absolutely non-irritant and harmless to the infant organism. Papain meets these requirements. Papain is derived from the tropical plant *Carica Papaya*, indigenous to Brazil; it is a yellowish-white powder, of spicy odor and a taste akin to meat extract. The important properties of papain are, that it dissolves albumin and fibrin, and has the advantage over pepsin of activity in neutral and alkaline liquids as well as in acid. Thus papain is capable of exerting its peptonizing power in the intestine.

The favorable results which I achieved with papain recently, in treating stomach affections in adults, prompted me to test it in dyspeptic conditions, particularly in intestinal catarrh in infants and young children. The results were uniformly favorable. The little patients took papain readily, and in no instance was it rejected by the stomach as is so often the case with calomel and other drugs.

As a rule I ordered ten centigrams (1½ grains) three times daily for nursing infants, each dose followed fifteen minutes later with oatmeal gruel or diluted cow's milk. The improvement became apparrent after the third or fourth powder, manifested by increased desire for drink, subsidence of eructations, and a return to the normal yellow of the evacuations; the previous fetid odor of the latter disappeared entirely, a proof that papain possesses antiseptic power also.

For children over one year old, it is advisable to make the dose 0.2 to 0.3 gm.

Papain has proved in my children's practice, a most excellent appetite-promoting and digestion-improving agent, and I do not hesitate to recommend it warmly for dyspepsia infantum.

PUTTING SALT on a bird's tail, is a time-honored method now adapted by Kime (*Medicine*, Sept., 1899) to the treatment of tape-worm: "A string is tied around the worm about three inches from the patient and one-half grain of morphia injected above the string directly into the body of the pest. The protruding part is then severed just below the ligature and returned to the bowel for about ten minutes. A large injection of water will then bring away the worm entire."

CLINICAL OBSERVATIONS UPON PEPTO-MANGAN.

By Paul Chester, M.D.,
Late Resident Physician St. Lukes Hospital, Chicago.

The exact method by which iron is absorbed from the digestive tract to become part of the hemoglobin of the red blood corpuscles is as yet undetermined, but the clinical fact remains that iron is a specific in anemia, and its administration gives, perhaps, the most satisfactory results in the whole field of therapeutics.

Success in the administration of iron depends upon two factors; first, it must be given in sufficient quantity, and second, it must be continued long enough to prevent relapses which so frequently occur. The hematinic effect of iron is best shown in chlorosis, in which the iron contained in the food is manifestly insufficient to cure the disease, which, however, reacts readily to larger amounts. The oxygen-carrying power of the blood depends not altogether on the number of red blood corpuscles, but also on the amount of hemoglobin, which may vary in specimens containing the same number of red blood cells. During the early part of the treatment the deficiency in the number of red blood corpuscles is rapidly made good, but they do not recover their full size and natural shape, nor does the percentage of hemoglobin approach the normal point except after prolonged treatment. It frequently happens that the hemoglobin percentage increases rapidly to a certain point, 85 or 90%, beyond which it rises very slowly even though the subjective symptoms have entirely disappeared.

The following cases illustrate the use of Peptomangan (Gude), a preparation having the advantages: that it is palatable, does not injure the teeth, cause gastric irritation or produce constipation, that it eliminates discouraging results from insoluble pills, and is available for infants as recommended by Holt.

Case 1—Chlorosis.—Miss E. S., domestic, aged 21 years. Family and personal history negative. Complains of pain in back and chest, fainting and difficulty in breathing. Appetite poor. Constipated. Menstruation irregular. Immense pallor of skin very noticeable. Heart and lungs normal. Treatment: Peptomangan, one dram and later two drams four times daily. Blood examination, April 1, hemoglobin 50 per cent.; red blood corpuscles 2,500,000 per cubic millimeter. April 21, hemoglobin 55 per cent.; red blood corpuscles 3,100,000. Patient has returned to her home in the country much improved.

Case 2—Tubercular jaw.—Mr. C. D., cabinet-maker, referred from dental clinic for general treatment. Five months ago a swelling appeared about the base of the first two lower left molar teeth. The teeth were extracted and the jaw curetted. This was followed a few days later by a secondary hemorrhage. Now complains of great fatigue on exertion. Physical examination shows marked pallor of skin and swelling of jaw. Heart, lungs and urine normal. Treatment: Peptomangan two drams, q.i.d. Blood examination, April 21, hemoglobin 73 per cent.; red blood cells 4,350,000. May 12, hemoglobn 85 per cent.; red blood corpuscles 4,425,000. Induration about jaw still persists, and will probably require further operating.

Case 3—Chlorosis-amenorrhea.—Miss K. K., aged 16 years. Has been under treatment for some time but very irregularly. Complains of headache, backache and vertigo. Always constipated. First menstruation at 15, always irregular and painful. None during the last four months, but has pain and nervous disturbances at usual time. Treatment: Peptomangan two drams, q.i.d. Blood examination, June 23, hemoglobin 70 per cent.; red blood corpuscles 3,300,000. July 21, hemoglobin 80 per cent.; red blood corpuscles 3,850,000. Subjectively much improved.

Case 4—Chlorosis.—Miss M. D., age 18 years. Fainted twice while in church recently. She has continuous headache

and complains of vertigo on least exertion. Appetite good. Bowels constipated. Menstruation irregular. Physical examination is negative except a marked greenish pallor of skin, a systolic murmur at apex of heart and slight edema of ankles. Treatment: Peptomangan, two drams, three and later four times daily. Blood examination, June 2, hemoglobin 45 per cent.; red blood corpuscles 1,790,000. July 7, hemoglobin 60 per cent.; red blood corpuscles 2,400,000. All symptoms gradually improving.

Case 5—Chronic Parenchymatous Nephritis.—Miss M. M., age 18. Had scarlet fever when a child. During the last year she has complained of headache, pain in abdomen and swelling of eyelids and legs. Examination shows: skin dry with intense pallor, mucous membranes pale, edema of eyelids and extremities. Lungs negative. Heart of natural size with accentuated second pulmonic sound. Urine increased in quantity, albumen present, 1.5 per cent., granular and hyaline casts, blood and epithelial cells. Treatment: Suitable diet and diuretics. Peptomangan two drams q.i.d. Blood examination June 16, hemoglobin 43 per cent.; red blood corpuscles 2,500,000. June 29, hemoglobin 55; red blood corpuscles 2,800,000. Her anemia is gradually improving. Headache and edema have disappeared. Urine still contains albumen and casts.

Case 6—Malaria, double tertian type.—Miss J. S., aged 19, lives in a malarial district near drainage canal. She has already had several attacks of chills and fever. At present she complains of fever which comes on every evening. Microscopical examination of the blood shows malarial parasites of the tertian variety. Her skin and mucous membranes are pale. Treatment: Quinine and peptomangan two drams before meals. Blood examination, June 13, hemoglobin 75 per cent.; red blood corpuscles 3,500,000 in each cubic millimeter. July 11, hemoglobin 80 per cent.; red blood cells 3,800,000. Her fever has entirely disappeared, and she says that she feels much better in every way.

6 East 47th Street, Chicago.

*DIABETES.**

Dr. W. O. Roberts:—Two years ago a lady came to me from Tennessee with gangrene of two toes, which she said followed the paring of a corn on the plantar surface of the foot near the second toe. An examination of her urine revealed a large amount of sugar, and I gave an unfavorable prognosis, as did also Dr. Vance, who saw the case with me. This woman had considerable intestinal disturbance, but I could discover at that time no evidence of organic disease of the kidneys. Under codeia and salol internally, and antiseptic dressings to the toe, she recovered after the loss of two toes. She remained here about two months, then returned home. Her urine had diminished very much in quantity and the amount of sugar was decreased. She was advised to adhere to her diet and to continue the codeia. She came back here the early part of the present month. During the summer she wrote me, however, that she was having a great deal of trouble from swelling of her feet and legs. Upon her return I found there was considerable puffiness under the eyelids and oedema of both legs. Gangrene had begun in the same foot on the inner side of the big toe, which she said started from burning her foot with a hot-water bottle. Examination of her urine revealed not only a great quantity of sugar but also a large quantity of albumen. It was not examined microscopically. She had intestinal irritation, diarrhea, which was quite troublesome, and she had fallen off very much in weight. She had been a very fat woman. In examining the abdomen I found quite a large tumor in the region of the head of the pancreas. Two days after arriving here she went into coma and soon died. No post mortem was made.

Dr. J. M. Ray:—I recently had experience with two cases of eye complications

* Discussion on Diabetes before the Louisville Medico-Chirurgical Society, and contributed exclusively to the AMERICAN THERAPIST.

in diabetes. One was a case at the clinic —a large fleshy woman, colored, with cataract, which you know is quite a frequent complication of diabetes. She was blind in the affected eye when brought to me. I had her urine examined by one of the assistants at the clinic, and a large quantity of sugar was found. I transferred her to the medical clinic, and she was there treated for several months, when she was brought back to me, and I decided to operate upon her eye. After explaining the gravity of the situation, she submitted to an operation for cataract. I looked up the subject rather fully at that time and found that some one had examined cataracts after removal and had discovered the presence of sugar. In this case a careful chemical test of the macerated lens was made, but no sugar found. She still comes to the clinic occasionally, and has a very good eye. The fellow eye had been lost by an operation for cataract two years before.

Another case came to me from Tennessee a few months ago which had been under the care of an eye specialist who had told her that she had a cataract. When she came to me her sight was defective; there were opacities of the lens, and in addition she presented a beautiful picture of retinal hemorrhages; there were numerous small hemorrhagic spots, but not presenting the typical appearance of the retina exudate of Bright's disease. Tests of her urine showed a large quantity of sugar. She said she was told by her family physician that she had diabetes. I have heard from the family several times since she returned home, and they state that she is now blind and helpless.

A point that I want to emphasize is that the ophthalmoscopic appearance in these cases of diabetes is not exactly the same as it is in Bright's disease. You do not get the large flakes of exudation radiating from the macula. There are more hemorrhages and less exudations than you get in retinitis of Bright's disease.

Dr. Wm. Bailey:—I am glad the question of diabetes has been brought up for discussion, as it is one of great importance. There has always been difficulty in determining where the lesion was in connection with diabetes. I believe when sugar was first found in the urine the lesion was thought to be in the kidney; after Flint's work on glycosuria in connection with the liver that organ was held responsible; then Claude Bernard attempted to demonstrate that the fourth ventricle was the cause of sugar in the urine, and that was made responsible; now we have the pancreas mentioned in addition to intestinal disturbances, etc., and we might add "where are we at?" The management of these cases will depend largely upon where we place the responsibility. All cases of diabetes cannot properly be treated alike. Like many other diseases, we have treated the patient having the disease rather than naming the disease and treating it.

Those cases in which perhaps the brain or nervous system is a factor, and I think there are some of those, I am inclined to believe good comes from the administration of opium, and particularly codeia. I have certainly seen cases of diabetes markedly improved as to the amount of sugar eliminated, as to the comfort of the patient, under liberal doses of codeia. I have given twelve to fifteen grains of codeia a day without any inconvenience, and am inclined yet in such cases to use this drug and administer it freely. I have also seen marked benefit result from the use of intestinal antiseptics, such as benzosol, salol, etc. Salicylate of soda acts particularly well in these cases through its influence upon the intestinal canal. It seems to me that we are not getting at the proper treatment of cases of diabetes when we have to do it by dietetics; we ought to be able to manage such cases notwithstanding the fact that carbohydrates may be allowed. It certainly cannot be regarded as successful treatment to require such patients to abstain absolutely from

nutritious articles of diet—you cannot call that the successful treatment for the cure of diabetes. We are not getting at the cause of the disease by such management; we are simply compelling the patient to live on a restricted diet in order that there may be less sugar eliminated with his urine. I believe many of these cases later develop Bright's disease, and that becomes a serious factor. Perhaps because of this constant elimination of sugar on the part of the kidneys, there is a stimulation which eventuates in organic changes, which we recognize as Bright's disease, and that some of the cases of coma that we style diabetic or uremic may be due to this cause.

I have never met with a case where there was marked glycosuria with a low specific gravity. If you take urine at .1040 we have only two per cent. of solids by volumetric tests, and we must remember that solids are promptly eliminated by the kidneys. The volume of urine would necessarily have to be very large to contain much sugar with a specific gravity of only .1010.

Dr. A. M. Cartledge :—I have thought a great deal about this subject from a surgical standpoint and have read the writings of most of the recent authors, noting the different theories advanced to account for the varieties of the disease recognized. The theory outlined by Parry comes nearer explaining these cases than anything yet suggested. I claim and believe that surgery has done much to clear up the troubles caused by diabetes and glycosuria. Surgical evidence so far bears out the theory of a neurosis in most of these cases affecting the mechanism of the sympathetic nervous system. This is proven by statements of surgeons that at least five per cent. of all cases of head injury are attended by transient glycosuria, and you will find oftentimes that these injuries involve the very points that you would expect to produce such a condition. We often find diabetes associated with pathologic conditions of the pancreas or in diseases of the liver; diabetes is also a symptom in many surgical affections where it is impossible to trace any definite relationship between the lesion and the symptoms present; but when we take into consideration the fact that diabetes has been observed after trauma without positive lesion over the solar plexus, then I think you get closer to the cause of the trouble. A blow over the solar plexus has been followed by marked glycosuria. Sugar in the urine has been observed in many cases of enlargement of the abdominal viscera, notably the pancreas and liver. The same condition has followed injuries whether any direct relation could be traced between the injury—for instance, over the solar plexus—and the diabetes or not. In a certain percentage of these cases the trouble is certainly sympathetic. The information gained by recent surgical investigation in regard to these conditions is extremely valuable.

As to gangrene of the extremities, etc. Recent experience of some of our best operators has demonstrated the wisdom of operating upon diabetic patients, provided we can exclude infection by pyogenic organisms after operative interference. However, this does not lessen the advisability of making a careful examination of the urine of all patients before resorting to surgery. The latest statistics are the most favorable of all, those of one surgeon showing the wonderful record of five recoveries out of seven amputations for diabetic gangerene. Previously we have been led to believe that all cases of diabetic gangrene die. I have amputated several limbs for diabetic gangrene, and will admit that there is very little to be promised from amputation in advanced cases, when patients have become so reduced that vital resistance is insufficient to withstand surgical interferenc.

Of all the agents I have given in diabetic cases, codeia acts the best, and I believe there is nothing equal to it. As suggested by Dr. Baily, I believe we should be more liberal in the diet allowed dia-

betic patients; too much importance has been attached to the dietary feature in the past.

The secret of success in operations upon diabetic patients is to resort to preliminary treatment of the diabetes before doing the operation. Of course this is usually impracticable where infection has taken place.

Dr. A. M. Vance:—Ten or twelve years ago I read a paper before this society on the subject of diabetes, and made the statement at that time that the urine of all patients upon whom it was proposed to perform a surgical operation should be examined for sugar just the same as we would examine for albumen.

A Member:—I saw a man to-day who suffered some injury to the nervous system and has had glycosuria for seven years, and has only recently begun to lose flesh and develop other characteristic symptoms. I am strongly inclined to the neurotic theory of diabetes; I think this offers the most rational solution of the etiology. This view is strengthened by its occurrence, as I have seen it several times, in gouty subjects; a gouty hereditary tendency is certainly one of the strongest predispositions. I would like to have some of the authorities tell us why the Jews have diabetes more than anybody else. It is a remarkable fact that seventy-five per cent. of cases are among the Jews. I have reported cases bearing upon the nature of the nervous cause of diabetes, showing that the lesion was in the sympathetic system. One most remarkable case of glycosuria occurred in a prominent man whose leg was accidently crushed and was amputated just below the knee. His urine at the time was found loaded with sugar. Amputation was performed in July and the man was out about the middle of August, and never had any more glycosuria. He is still living. I mention this to show the influence of nervous shock.

As regards the treatment. It occurs to my mind that I have prolonged the life of a great many cases of diabetes by judicious treatment. I have had numerous cases in infants, the youngest two and a half years of age, in which about ½ pound of sugar was eliminated per day with the urine. These were cases where there was a distinct gouty diathesis. The diagnosis was only made by examination of the urine. I have had a great many cases in children where the diagnosis would not have been made if it had not been uppermost in my mind to make an examination of the urine by squeezing a sample out of the diapers which the infants wore, and I believe I was the first to suggest this method of securing a specimen of the urine in very young infants. I am satisfied from the investigations I have made that diabetes in children is far more common than generally believed, and is almost universally fatal. I have never had an infant live over six or eight months after the diagnosis of diabetes had been made. I have hoped that something would dvelop, and believe it will, in the line of treatment by the administration of animal extracts. With our advanced knowledge of the secretions of the internal glands as they are called, and our increased knowledge as to the effects of animal extracts, I believe something will come of this treatment in diabetes.

I believe that salicylate of soda strikes the diathetic condition of diabetes; I cannot believe that the benefit is entirely due to intestinal antisepsis; it strikes a deeper line, which is the diabetic tendency of most cases Another agent that I have used with benefit is extract of the jambul or zambulam seeds. I have in my mind a case that lived four years after development of excessive glycosuria under the use of jambulanum. However, I must admit and indorse the fact that a great many theories have been advanced as to the cause of diabetes, and cases can alwany be found which will substantiate almost any theory. If we can lessen the amount of sugar by the free administration of codeia, it should certainly be used,

and if we can limit the sugar by this means, I see no reason why we cannot make the beneficial effect permanent by the continued and judicious use of this agent. We are still in the dark to a large extent in the treatment of diabetes, and I hope future suggestions will afford us some certain relief to this class of unfortunates.

Dr. S. G. Dabney:—I have a case of diabetes under observation at the present time, a well known lady of this city, who comes between the period of young and middle aged, perhaps, as she is about forty years old, who has had diabetes for several years; she also has cataract which began about a year ago. She is a small, sparely built woman, thin and anemic, having hardly arrived at the age when we would expect an ordinary senile cataract, so that it was probably a result of her diabetic condition. I have never operated upon a case of cataract in a diabetic subject; the books, however, tell us that the results are nearly as good as they are in ordinary cases. I think surgeons in other departments rather hesitate about operating upon diabetic patients.

GLEANINGS IN TOXICOLOGY.

Two inmates of the Loretto Home, New York, died from drinking wood alcohol containing larkspur.

Joal (*Rev. Hepdom. de Laryngologie*, No. 21, 1899) mentions several cases of urticaria due to odors, including iodoform, carbon disulphide, rose, lilac, hyacinth and artificial essences.

Meneau describes a case of argyria in a man of 73, whose throat had been cauterized over a thousand times, but gave no account of internal use of silver. (*Archiv. Internat. de Laryngologie*, quoted indirectly by *Internat. Med. Mag.*)

Phosphorus Poisoning in a Baby.—Dr. Henry Koplik reported the case of a male infant, ten months old, poisoned by 1-800 of a grain of phosphorus given three times a day for two weeks. (N. Y. Academy of Medicine Reports in *Pediatrics*).

Frank Paschal (*Texas Med. Jour.*) reports the case of a small woman who took an ounce of carbolic acid. Believing that the condition of the nerve centres was of more importance than the local lesions, he gave strychnine in large doses and secured a recovery.

Cocaine addiction from the use of proprietary snuffs is said to have occurred in several cases in Chicago. We personally were so fortunate as to check a similar case in its incipiency, the patient happening to mention certain symptoms which aroused the suspicion of cocaine poisoning, and being entirely innocent of any addiction to drugs.

Levi Wells, Food and Dairy Commissioner of Pennsylvenia (*The Nation*) reports finding aniline dyes and salicylic acid in two-thirds of 63 samples of fruit jellies; 37 adulterations in 40 marmalades and jams; 12 cases of salicylic acid adulteration in 47 samples of beer; boric acid embalming in 19 samples of sausages and oysters.

Sjenetz (*Vratch*, Vol. 20, quoted in *Int. Med. Mag.*) cites three cases of sudden death from caffeine, the total quantity averaging 1.50 gm., administered in two or three days as a diuretic, heart tonic or headache cure. The heart was found in a state of systolic contraction. He also claims to have demonstrated a diminution of the area of cardiac dullness in non-fatal cases.

Byrom Bramwell (*Lancet*) reports a case of typic acute thyroidism in a nursing child, due to administration of thyroid extract to the mother, who had exophthalmic goitre. The connection was demonstrated by alternate withdrawal and administration of the extract, and also by the fact that, after weaning, the infant had no further trouble. Why thyroid extract was administered in exophthalmic goitre, which is a disease of excessive thyroid activity, is not explained.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR,
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Editorial.

PURE MILK.

Dr. GEORGE W. GOLER, Health Officer of Rochester, at the recent Branch Meeting of the New York State Medical Association presented a table showing that Rochester possessed the lowest infant mortality of any city of New York State. This he ascribed largely to the fact that the milk supply was carefully guarded by ordinance. From 1889 to 1898 the mortality of infants under five years of age had fallen from 34.6 to 21.1, most of the saving of life having occurred in the summer months.

An inspection of Dr. GOLER's table (which is published in the October issue of *Arch. of Pediatrics*) shows that infant mortality bears a fairly close ratio to the population of cities, though Rochester has fallen below Syracuse, Troy and Utica, by hygienic care. It is only fair to point out, however, that Rochester is rather favorably situated, being built on sandy soil, having excellent drainage through the Genesee River, and being surrounded on all sides by good farming country so that the necessities of life are extraordinarily cheap. Moreover, the city happens to be laid out in such a way that there are no impassable boundaries of social life and, thus, no excuse for overcrowding. Still, we are glad to concede to Dr. GOLER and his department a large share in bringing about this happy state of health among the little ones.

We are inclined to think, from our personal experience and the testimony of various writers and speakers, that cholera infantum is becoming a far less important factor in vital statistics than it formerly was. In Buffalo, for example, cases are quite rare except among the foreign population, and even here the trouble is rather due to ignorance than to poverty, overcrowding, or essentially unfavorable sanitary conditions. We have personally taught for years that the main single factor is the long-tubed nursing bottle, and we note with pleasure that not a few Boards of Health are making crusades against this murderous convenience.

We have already intimated that we do not regard the purity of milk as the sole factor in summer complaint, yet its importance is great. Barring criminal carelessness in the families of milkmen in which some zymotic disease is in progress, there are two principal diseases communicated through milk. Typhoid fever has, in a number of epidemics, been disseminated along milk routes. In these cases the bacilli have, in a few instances, reached the milk by direct infection from the stools, either by unclean hands of milkers or, more frequently, by contact of the udders with manure heaps onto which human excrement had been thrown. Tuberculosis is said to be exclusively endemic in countries where cow's milk is used. It is probably very frequently transmitted by milk, and usually through no fault of the dairymen, the disease being insidious and not recognized by them. Occasionally, however, cows which to the most ignorant layman are plainly diseased, have been maintained as a source of milk.

The frequency of tuberculosis varies widely in different herds. According to a report recently presented to the Canadian Medical Association, cattle examined prior to export from Canada are tuberculous in only a fraction of one per cent. of instan-

ces, while some herds have reached practically 100 per cent. Only systematic veterinary examinations and condemnation of tuberculous cattle can remedy this source of danger.

But the high mortality of infants from the use of milk is not due to the transmission of any specific disease, but to autointoxication, arising in the intestine, from the ingestion of milk infected with various organisms of fermentation and putrefaction. Many of the cases of gastro-enteritis, so-called, die before an inflammatory condition has had time to develop and, in most cases, we believe that the symptoms are rather toxic than inflammatory. There is no one fault to which the improper condition of milk can be ascribed. Between the pure milk, as it emerges from a healthy cow, and the poisonous, germ-infested milk which the baby takes into its mouth, is a chain of carelessness, stupidity, delay and avarice of varying length and degree.

The ideal method of obtaining pure milk is to abandon the notion of a germ-free product and to watch the process of gathering, bottling and delivery, enforcing every detail of decency, cleanliness and despatch. When the discipline of such a dairy is strict, and the employees fairly honest and intelligent, the product contains a few bacteria, but not enough to do harm, and it is free from chemic results of bacterial fermentation. But a physician much interested in such a dairy—both professionally and financially—has informed us that it is exceedingly difficult, despite every attention to inspection, to obtain a uniform quality of milk, and that every few days there would be found an excessive germ-content. Moreover, the inforcement of strict discipline necessitates the massing together of the cows into one farm, with consequent increase of the danger of tuberculosis.

All things considered, we are inclined to the opinion that pasteurization is at present the most feasible compromise between the ideal, natural product, which can scarcely be kept reasonably germ-free, and the absolutely sterile but chemically changed product obtained by treatment by high degrees of heat.

An important drawback to the general use of pasteurized milk has been the high price charged. In New York City, thanks to a noble charity with which the name of Abram Strauss is indelibly connected, pure milk is within the reach of all, and at prices below the standard of old-fashioned infected and watered milk. But we are informed by the manager of the Mertensia Dairy—one of the sources of supply of Rochester—that it is perfectly possible to retail bottled pasteurized milk at six cents a quart, not as a matter of philanthropy but of business, and that the seven, eight and ten cent rates established in some parts of the country are entirely disproportionate to the increased cost of production and marketing. While the difference of a few cents seems a small matter in comparison with life and health, the average citizen—that is to say, the father of the average baby, which has so much to fear from impure milk—is compelled to count his pennies closely. His milk bill is one of the largest that he has to pay for food, and an increase of from sixteen to sixty-six per cent. in this bill is a serious drain on his meagre income. Thus the fact that pure milk can compete with impure on the same financial basis as the latter, is one of the most hopeful signs that we have observed.

IS ACETANILID DANGEROUS?

A few months ago *Pediatrics* contained an article by Dr. Thompson S. Westcott, reporting an original case of acetanilid poisoning in an infant, the pure drug having been used as a powder for the relief of intertrigo. Under the use of whisky the usual symptoms of depression were recovered from. The author cites also the experience of a number of others who have observed toxic symptoms following the free use of acetanilid on excoriated

surfaces, ulcers, fresh wounds, etc. All of the cases recovered, except a baby four days old, reported by Rook, in whose case acetanilid and bismuth had been used over an extensive erythematous inflammation of the groin, nates, thigh and surrounding parts. We are personally interested in the statement that the use of acetanilid as a wound dressing was introduced by Harrel, in 1893, having used it in a number of cases both upon fresh incised wounds and on ulcers as early as 1890–1. It is perfectly possible that some other physician may have anticipated even this early external use of the drug.

Some years ago we took special pains to study the reports of poisoning from acetanilid. At this time, about 1894 or 1895, we could find no fatal case, but shortly afterward one was reported, and in the last four or five years we believe two or three others have occurred. In all the cases of poisoning, whether fatal or not, which we could find, acetanilid had been recklessly employed, either by the administration or accidental taking of enormous doses or by the external use of unmeasured quantities. All of the serious cases, moreover, had been among women and children, or among men in peculiarly depressed physical states.

Considering the undoubted fact that acetanilid has been widely used in the last decade, either under its own name or in some proprietary mixture, including head-ache powders bought by the laity and taken with no caution whatever, it is surprising, not that a considerable number of toxic cases have been gathered from the world's medical literature, but that these cases have not been more numerous and more grave. This is especially noteworthy when we consider that there has, from its introduction, been a prominent minority of physicians who have condemned its use and have been on the lookout to incriminate antipyretic drugs in general and acetanilid in particular We recollect, for instance, that while an interne, we not infrequently gave as much as thirty grains (about 2 grams) of antipyrine in an evening, sometimes producing marked symptoms of overdose—all this under orders—while the use of even small quantities of acetanilid was forbidden.

The dosage of acetanilid, as of all drugs, should be kept within the limits of physiologic action. It is a safe rule that whenever a brilliant, experimental effect is produced in a human patient, too much has been given. We have found twenty-five centigrams (four grains) a sufficient dose for most adults and have rarely cared to repeat it more than once in twenty-four hours. We have known a delicate woman to take fifty centigrams daily for a month or more, without serious result beyond a sensation of chilliness due to circulatory depression. At the same time, we wish it understood that continued dosage is contrary to our advice. As to the therapeutics of acetanilid little need be said, its action as an antipyretic, analgesic in neuralgia and febrile affections, and its antiseptic action in the stomach being well known. To the last is to be ascribed much of the relief afforded by acetanilid in head-aches. As an antipyretic in typhoid and similar continued fevers we have had little experience with acetanilid, or with any other drug, believing that it is far better to control temperature by cold sponging, and especially by the routine use of antiseptic and absorptive methods which need not be discussed here.

SERUM OF CONVALESCENTS AND THE THEORY OF SEMELINCIDENCE.

It is still too early to pay much practical attention to the various theories accounting for the antagonism between an infectious disease and the products of that disease. To-day there is only one germ disease against which we have a satisfactory protection afforded by its own antitoxic products. This, it is scarcely necessary to say, is small-pox. At the same time, it would be incorrect to claim, as

some extreme conservatives have done, that no progress has been made since the studies of Jenner.

Almost all constitutional diseases due to specific bacteria are semelincident. In other words, it is only exceptionally that one attack of the disease does not afford immunity against subsequent attacks. Whether "exhausting the soil" is a mere rhetoric figure or the crude expression of bacteriologic law, is a debatable question. At the moment we recall only four supposedly specific acute diseases not especially local that are not semelincident—pneumonia, influenza, erysipelas and diphtheria. With reference to the last two, there is no reasonable doubt that one attack rather predisposes to another. It is questionable, however, whether the recurrence of genuine infectious pneumonia occurs with notable frequency, as it is so difficult, clinically, to distinguish between catarrhal and pneumo-coccus pneumonia. Many so-called attacks of influenza are simply severe colds, and the absolute specificity of genuine influenzas is not thoroughly established—that is to say, it is not proven that clinical influenza is due to a single germ. Hence it may be that apparently recurrent pneumonias and influenzas are attacks of bacterially different diseases, just as many reported instances of the occurrence of two attacks of measles in the same person are due to a failure to distinguish German measles from true Rubeola.

Fortunately, whether semelincident or not, most acute germ diseases tend to reach a favorable stage in which the opposition aroused by the disease in the organism exceeds the morbific force of the disease. Were it not so, recovery would be impossible, or if achieved by artificial means, such as the administration of drugs, the enfeebled patient would inevitably be reinfected from his surroundings.

Weisbecker (*Muench. Med. Wochenschr.*, Aug. 8) has made a practical application of this theory, by using serum obtained by venesection against various acute zymotic diseases. After keeping the coagulated blood in a cold place for a day or two the serum is separated and its further preservation is insured by adding minute quantities of phenol. Aseptic precautions are, of course, also necessary. He has used 10 and 15 ccm. as an adult dose, and has succeeded, as he claims, in aborting or mitigating measles, scarlet fever, typhus, (typhoid?) pneumonia and diphtheria. The patient from whom the blood is taken must have been otherwise healthy and in the period of 3 to 5 days after the permanent disappearance of the fever. He is making similar experiments for pertussis, influenza and tetanus, especially to determine the optimum period of protective influence.

THE STATUS OF THERAPEUTICS.

The following quotations are from French teachers, and are cited by a Paris correspondent of the *Boston Medical and Surgical Journal*:

"It must be admitted that the scandal of our times is the shameful ignorance shown by an infinite number of physicians concerning the real action of drugs. Although our practitioners are pretty fair clinicians, they are almost all unaware of the true properties of the remedies which they handle every day with extraordinary heedlessness."

"Gentlemen, when you are in practice you will see that the point that will most impress a confrère is a correct diagnosis; the patient's family will be most impressed if your prognosis turns out correctly; but you yourself will be most impressed when your treatment is followed by any improvement that you think can fairly be ascribed to it."

We are sorry to say that these statements are not entirely inapplicable to the medical profession of America, though we may comfort ourselves with the thought that in the matter of practical consideration of disease our profession stands relatively high. To a certain degree, poor therapeutics is an affectation. It is easy to scout at the use of drugs as unscientific; there is an *eclat* about the use of the knife that does not grace the pill and the bottle; and in these days when the cynic expects to be rated above par, one may achieve a reputation for brilliancy by the cheap method of proclaiming himself a thera-

peutic nihilist. The regular profession may well emulate the industry with which the homeopath toils in the close observation of drugs and in the painstaking review which he makes of the experience of others.

The profession is too prone to fads, and to following this or that department of medical science and art because it is popular or because of some specious attraction. Let us not forget that while pathology is the root of the understanding of disease, and diagnosis the trunk upon which the treatment must rest, therapeutics is the flower culminating in the fruition of all medical endeavor. However penetrating the root, however grand the trunk, however broadly its branches extend, the barren tree fulfills its purpose only when cut down and dismembered.

A certain limited number of scientific investigators may be supported by the state and by institutions of learning, but the medical profession is, and must continue to be, supported by the people. The people, naturally and rightly enough, will look at the matter from the economic standpoint; they will judge the medical profession, not by its scholarly attainments, not by the brilliant results attained by surgery or some other special department in a comparatively infrequent case, but by the practical every-day work of its general practitioners. It may well be that the present disaffection of the laity and their ill-advised tendency to run after the false gods of spiritualism, faith-cure and Christian Science, may have some substantial basis in our failure to pay to therapeutics the attention which it deserves.

Guaiacol is now fairly well recognized as exerting general antipyretic power when applied locally. Moncorvo, of Rio de Janeiro, reports to the French Academy of Medicine (*Med. Times*) that this property may be used to distinguish between tubercular and malarial fever, as the latter does not yield.

Therapeutic Gleanings.

Liquid air has proved satisfactory as a local anesthetic.

H. A. Hare recommends fluid extract of asparagus tops as a diuretic.

Chrysarobin is claimed by Fitz to be specific against warts, 10 per cent. in ether, repeated daily.

Massage of abdomen toward the breasts and of the breasts themselves is advocated by Schien as a galactogogue.

Barker's formula:

Eucaine	1 part	by weight
Chloride of sodium.	8 parts	"
Water	1000 "	"

Southworth advises for local application to a rigid perineum:

℞ Chloroform 2 parts
Ether 1 part
Spirit. odorati 1 part

An anesthetic liquid for application to dental cavities is recommended in *Riformi Medica* as follows:

℞ Orthoform 1
Ac. carbolici..... 1
Camphorae 4
Chloralis 4

Dr. Futcher, in the *Johns Hopkins Hospital Bulletin*, has reported four cases of aneurysm in which injections of gelatine, 1 per cent. in physiologic salt solution, had been given. One died, and the necropsy showed no clotting in the sac. One patient, still alive, showed no improvement.

Dr. H. A. Hare, in the *International Medical Magazine*, emphasizes the fact that fever is a conservative process, which stimulates the glands which produce white blood corpuscles, and that, within reasonable limits (up to about 103°, unless protracted) it should not be interfered with. He condemns the use of antipyretic drugs and advocates the use of cold water, always with friction of the extremities to bring the hot blood to the surface as well as to improve the tone of the vessels.

Current Literature.

D. H. Warner, of Brooklyn, in a discussion at the Mississippi Valley Medical Association, advocated the administration of chlorine with quinine in order to insure an excess of chlorides in the blood and to prevent the destruction of the red corpuscles by the parasite. Quinine, he held, did not destroy the malarial spores though it did destroy the adult "germs."

Potassium Permanganate Injections in Dysentery.—Gastivel (*Semaine Medicale*) uses 500 c.c. of a 1:2000 solution at a temperature of 45° C (=113° F), the entire amount being retained for a minute or two. (Sometimes injections are retained longer than we expect, but we think this solution could be retained without danger.—Editor.) The injection is repeated in twelve hours. The strength is then reduced and the intervals increased.

Otto Ramsay (*Am. Journ. of Obstetrics*) advises immediate purgation after coeliotomies in which numerous adhesions have been broken up or a considerable raw surface is left. He follow's Byford's method of giving a purgative immediately before operation, and of giving drachm doses of magnesium sulphate every hour after the operation, with a small glycerine and water enema after the sixth dose. After this, the saline is continued with an enema every three hours till the bowels move freely.

Shober, *Am. Journ. of Obstetrics*, has succeeded in diminishing the size and the symptoms of uterine fibroids by administering mammary extract, four to eight grams daily. With the larger dose cramp-like pains in the uterus were produced. Positive results were reached in six to eight weeks. For simple oöphoritis, not pelvic peritonitis or tubal disease, he has used parotid extract in the same dose. He rather objects to thyroid medication on account of the depression, tachycardia, etc.

Archives of Pediatrics, discussing chorea editorially, mentions rest and avoidance of exposure to ridicule as important factors in treatment. In non-rheumatic cases arsenic is the best drug, three drops of liq. sodii arsenitis, *t. i. d.*, increasing a drop or two each day till nausea, abdominal pain or puffiness under the eyes give warning of toxic effect. After an intermission of a day, the drug should be given again in reduced dose. The arsenic should always be given much diluted and on a full stomach. Salicylate of sodium is advised in non-rheumatic cases. Trional is recommended as a hypnotic, if necessary on account of broken rest.

Kopp, of Munich, *Münch. Med. Woch.*, quoted editorially in the *Medical News*, compares the various synthetic silver preparations advocated for gonorrhea. Argentamin, argonin and protargol are, on the whole, of less value than silver nitrate. Largin is about equal to silver nitrate. Itrol (silver citrate) is unstable, but of therapeutic value in 1:4000 solution. Oxycyanate of mercury acts like protargol. Janet's method of irrigating with potassium permanganate is disappointing in acute cases, but useful in chronic.

Protargol in Gonorrhea.—Columbini (*British Med. Jour.*) advises the following treatment of acute gonorrhea. Make a standard 10% solution by putting 5 c.c. of neutral glycerine into a mortar, add 10 gms. of protargol, stir till homogeneous, dilute with 95 c.c. of sterilized water, and shake till the solution is perfect. Pour into a colored bottle and keep in a dark place. A 0.25% solution may be made by mixing 2½ c.c. of this solution with 97½ c.c. of water; a 0.50% solution by mixing 5 c.c. with 95 c.c. of water. Likewise 10% and 2% solutions can be readily prepared. As the acute inflammation subsides under injections, the strength of the solutions may be increased from the 0.25% to the 2% solution. Colombini

washes out the urethra first with a syringeful of protargol, then injects 4 c.c. of the same and keeps it retained for 15 minutes by holding the meatus closed. One injection should be given the first day, two the next, and three thereafter, continuing the treatment for 20 days after the discharge has stopped. This method cures the disease rapidly and effectually, and no irritation or complication occurs.

Another remedy for gonorrhea, itrol, or the citrate of silver, may be used instead of protargol. Schill (*Therapeutische Monatshefte*, April, 1899) claims favorable results obtained after using itrol in 100 cases. The injections were 4 or 5 times daily, 1 in 10000 or 1 in 4000 in strength, according to the stage of the disease. Syringe and bottle must be kept clean as itrol is decomposed by organic matter.

Antistreptococcic Serum for Puerperal Infection.—G. Eustache, *Journal des Sciences Medicales de Lille*, June, 1899, reviews the experience with serum and considers the results unfavorable. If serum is to be used at all, it should be prepared from mixed cultures—fifteen varieties of streptococcus, or more. This is the shot-gun prescription brought to a scientific basis at last by the practical advances in bacteriology! But in the future it may be possible to determine with slight delay just which streptococcus is to be incriminated.

Spencer (*British Medical Journal*) is also skeptic as to the value of serum treatment.

Hyperemesis Gravidarum.—Masset, *Lyon Medicale*, June, 1899, gives the obvious advice to treat the cause, if possible, otherwise to use orexin and somatose. In *Medicine*, 1898, we discussed this subject from the standpoint of the grastro-enterologist. On the whole, we believe that vomiting of pregnant women should be considered pathologic, and often due to causes entirely independent of pregnancy, though usually aggravated by the nervous and metabolic conditions peculiar to this state. In two recent consultations we have demonstrated a retrodisplacement of the uterus with beginning incarceration. This is probably the most serious cause of vomiting in pregnancy and perhaps the most frequent cause of extreme cases. In the majority of cases we hold that, unless some reflex pelvic cause can be demonstrated, the stomach should be investigated and treated just as if the patient was not pregnant.

Laborde's Method.—Laborde (*Bull. del Academie de Med.*) reports fourteen cases of asphyxia from immersion in cold water, and inhalation of illuminating gas, all of ten minutes duration or longer. He emphasizes the importance of his method of rhythmic traction of the tongue and of keeping up the work of resuscitation for three hours, if necessary. (In this connection we refer to Dr. Fronczak's report in our October issue.—Editor.)

Ozone and its Generation by the Static Current for Therapeutic Use.—Twenty years ago or more, the use of an ozone generator depending on the oxidation of phosphorus, was in vogue, though not recognized to any degree by the regular profession. Bleyer, *Medical Record*, Sept. 9, advocates a more general use of ozone as an antiseptic inhalation. He says:

"The ozone generator consists of a glass globe having two poles within with silver points so as to give a fine and large brush discharge. The poles project through the sides of the globe and are connected with the sides of the static machine. A hollow pipe leads from the globe to the mouth-piece. Just outside of the globe is attached to the pipe a small reservoir in which a piece of cotton is kept saturated with some essential oil, thus keeping the ozone free from any of the irritating acids of the air. He has also arranged a cabinet apparatus which will give, in combination with ozone, the actinic rays of light of a high violet, so that a patient may inhale ozone and en-

joy sunshine no matter what the weather is outside."

While we are necessarily reminded of the blue glass craze, the use of actinic rays seems to rest on sound principles. Indeed, it often happens that quacks get a crude conception of ideas of marked value, if properly carried out.

Mydriatics.—In the discussion following the reading of a paper on Acute Conjunctivitis, by Dr. Edward Jackson, before the Rocky Mountain Inter-State Medical Association, the author summarized his opinion of mydriatics thus:

With regard to the use of cocaine in conjunctivitis, I think I have never used it in as weak a solution as one to two thousand, and it is quite likely that such a solution could be prescribed without doing harm. Perhaps some of you have noticed smarting after its use in your own eyes. Upon questioning patients I have generally elicited some such symptom after the use of cocaine in the eyes, in the ordinary solution of 4 or 5 per cent. That smarting indicates the reaction through which the cocaine does damage. If the solution were very weak there would be little danger of its doing damage, and there might be none of the reaction which is harmful. But I doubt if in such solution it would be a very important adjunct to the treatment. I think further the use of the supra-renal extract is rather better, although I have been somewhat disappointed with it, so far as any curative influence seemed to exert, but it may have an important value as an adjunct, as Dr. Black mentioned.

In regard to atropine for the purpose of diagnosis. It will of course help to reveal adhesions. But the same results can be attained by the use of cocaine which dilates the pupil very readily, or better still by a weak solution of homatropine and cocaine hydrochlorates. The effect of such a solution is gone entirely in twenty-four hours; and it is practically all gone in three or four hours. It would be decidedly better than any of the other mydriatics in a case where it was doubtful whether the trouble was conjunctivitis or iritis.

Malaria.—In a readable "pen picture" of experience at Fort Porter, N. Y., Dr. Nelson W. Wilson, U. S. Army, in the *Buffalo Medical Journal*, says:

As to treatment, we stopped all quinine, after giving it in all sorts of ways, and Dr. McCaw suggested salicylate of cinchonidia in essence of pepsin, .33 to the teaspoonful of pepsin taken a few minutes before each meal. To this was added a Blaud pill, modified, after each meal, and aloin, strychnine and belladonna tablets at bedtime.

That this general plan of treatment for malaria was successful is shown by the fact that not a soldier at Fort Porter died, and that all who were under treatment for malaria have gone to the Philippines, with the exception of two or three, who were left behind because of expiration of enlistment, and one because of chronic gastritis.

Severe chills were broken by the administration of what the soldiers called "knock-out drops." This was made up as follows:

℞—Spts. chloroform.
Tr. opii.....āā.... 1.33
Spts. frument..... 60.00

As soon as the efficacy of the cinchonidia mixture, which is now known among the soldiers as "the white medicine," was established, the Surgeon-General furnished it in unlimited quantities, and I understand it has been supplied for the Philippine service.

Limitations of Hydrotherapy in Typhoid.—An editorial in *Modern Medicine*, while favoring the Brand treatment of typhoid, recognizes the following contraindications: "Sweating, goose-flesh appearance, cyanosis, pronounced cardiac weakness, myocarditis, intestinal perforation, peritonitis, tuberculosis, pleurisy, pneumonia, infancy and old age.

"If there is persistent high temperature, though the patient is sweating, cold water with friction applied to small areas successively for only a short time is recommended, and this application may be repeated every two or three hours if necessary to control the fever. It may be confined to the back and chest, thus stimulating the heart and central nervous system.

"The local application with friction is also to be used if there is the goose-flesh appearance, preceded by a fomentation or some other hot application to the spine.

"In cyanosis a short hot bath, hot enema, or hot fomentation to the spine may be followed by cold friction, beginning with the chest, then the back, and last of all the legs.

"For cardiac weakness use a cold precordial compress with hot and cold applications to the spine.

"The cold bath when used from the beginning of typhoid fever greatly lessens the liability to perforation and peritonitis; if they do come on the bath should be omitted and cold friction substituted."

We have personally happened to observe several cases of considerable shock following the use of the immersion bath in hospital practice, but we have had no experience in prescribing it, on account of fear of unpleasant results.

Safe Delivery.—R. Lattimore (*Georgia Journal of Medicine and Surgery*) describes the method of the Sloane Maternity Hospital, of New York, as follows:

When the first stage begins, she is given a soapsuds enema, vaginal douche of bichloride 1-5000, she is allowed to walk around or sit down just as she wishes.

As the second stage comes on she is carried into the delivery room, where a gown and long drawers, that cover the feet, legs and thighs, but are loose and open around the waist, are put on, a vaginal douche of 1 per cent. lysol is given with a soapsuds enema, the perineum scrubbed with soap and water and wiped with bichloride 1-5000. The attendant prepares his hands as for a major operation. One per cent. solution of lysol is used to dip the hands in, as it not only helps to sterilize but acts as a lubricant as well.

The perineum is usually saved intact by the use of chloroform and holding back the head until the perenium is distended and stretched.

Crede's method is used for the placenta.

Vaginal douche is then given, 1-5000 bichloride, 110°, but never into the uterus unless for special reasons.

Any laceration of the perineum over 2 cm. is sewed up.

A snug binder is put on the abdomen and breast. Liquid diet until the fourth day, then full diet.

Bowels are moved on the third day by one-half ounce each of castor oil and glycerine; salts not used unless the breasts are distended.

Allowed to sit up on the seventh day, to walk some on the ninth, and on the twelfth they go home.

The local anesthetic effect obtained with cocaine is more rapid, more intense and more lasting if the solution is warm. The dangers of intoxication are thus much diminished, as the quantity of cocaine can be very much reduced if it is warmed. A solution of 0.5 or 0.4 per cent. heated will produce a powerful effect.—*Vermont Med. Monthly.*

The Treatment of Eczema.—Schamberg (*International Medical Magazine*, August, 1899.) describes his treatment of eczema as follows: The diet should receive careful attention. Pork, sugar, pastries, sauces, starch foods and alcoholic beverages should be avoided and tea and coffse reduced to a minimum. The bowels must move regularly, and it is best to use calomel and saline waters for this purpose. Diuretics are of value, especially the salts of potassium. In chronic papular and squamous varieties, arsenic is useful. In strumous individuals cod-liver oil is of great efficacy.

The local treatment depends upon the grade of inflammatory reaction. As water is an irritant, starch or borax should be

added to it, and all crusts and salves should be removed by petrolatum or olive oil. In vescicular eczema, the various dusting powders prove sedative when moisture is copiously present, lotions of a saturated solution of boracic acid are useful, or the following:

℞ Pulv. calaminae			
Pulv. zinci oxidi.....āā	ʒii	12	oo
Glycerini.....	ʒi	6	oo
Aquae calcis, q. s. ad...	℥vi	300	oo

In acute eczema, soothing ointments, as the diachylon ointment of Hebra, are frequently employed, or the ointment bases, petrolatum, lanolin, adeps, or cold cream. When the stage of acute inflammation has subsided, more stimulating applications may be used. In subacute eczema, carbolic acid, menthol, resorcin, and salicylic acid are best. In chronic eczema, strong applications are required, especially the tar preparations. In pustular eczemas, ammoniated mercury, ten to 40 grains to the ounce, give admirable results. For squamous eczema of the palms, nothing equals a ten to twenty-five per cent. plaster of salicylic acid. Attention to detail is the key-note of success in treatment.

The Treatment of Chronic Eczema.—Dr. H. D. Chapin, in an article on this subject in *The Post-Graduate* (N. Y.) says:

The first thing to accomplish is to completely free the skin of all the dried exudation. It must first be softened by oil or some antiseptic solution. If the latter is used, the part is wrapped in sheet lint that has been moistened with bichloride of mercury (1 to 10,000) or carbolic acid (1 to 100) and the whole surrounded by oiled silk. After about twelve hours, the exudation is usually sufficiently soft to be rubbed off by pledgets of cotton dipped in oil or vaseline. If most of the body is to be treated it is better not to use the carbolic acid solution, particularly in very young infants, for fear of a possible poisonous effect. A very good way to remove the exudation is to wrap the part with lint that has been soaked in sweet oil, and bandage as above. We have now to deal with an inflamed skin that has been completely freed from the products of inflammation. After trying many salves, the preparation known as Lassar's paste has usually given the best results in the Babies' Wards. Its composition is as follows:

Salicylic acid.....	1 part
Zinc oxide.....	25 parts
Starch	25 parts
Vaseline	50 parts

In very young infants this may be diluted with equal parts of ung. ac. boric. or vaseline. This paste is rubbed into the skin, and the part covered with a bandage. When the face is affected a mask of lint is employed. The dressing is renewed once a day, the skin being first completely cleaned off with pledgets of cotton covered with the boric acid ointment or vaseline. This is to remove the paste that has been applied the previous days, so that a fresh supply can be rubbed in. * * * The treatment can be applied equally well to one limb or the whole body.

Chorea.—L. J. Smith, of Philadelphia, in the *Medical Times* of November, speaks as follows of the treatment of chorea:

Two things are regarded by the great majority of practitioners as being indicated—rest and Fowler's solution. Other drugs are used in case this one fails in any case, but it is the one that gives the most satisfaction as routine treatment. Guthrie makes two groups of cases, based on Mitchell's classification of motor symptoms. These groups indicate the method of treatment and are: 1. Sthenic or explosive. 2. Asthenic, or pseudo-paralytic. For both groups rest in bed is essential at the start. The first group calls for sedatives, such as chloral, the bromides, antipyrin, etc.; the second needs tonics like quinine, arsenic, and strychnine.

H. A. Hare considers cimicifuga the next best remedy when arsenic fails, and gives it in the dose of 20 to 30 drops of the fluid extract to a child of ten years. Where the disease is associated with rheumatism, near or remote, the salicy-

lates should be thoroughly tried. He finds that in cases where the muscular jerkings are so severe that sleep is impossible, a hot pack at bed-time will often give a quiet night. Care must be taken that a heat-stroke does not result, and if sweating does not come on and oppression ensues, the blanket must be removed. Before the patient is returned to bed the sheets should be ironed to make them warm and dry. Blankets are often better for the child to sleep between. The efficacy of this treatment is increased by the use of a dose of bromide of sodium or potassium and a little chloral. Tyson, in addition to Fowler's solution, gives one of the preparations of iron continuously in moderate doses.

Osler states that abnormally bright, active-minded children belonging to families of pronounced neurotic taint, should be carefully watched from the age of eight to fifteen, and not allowed to overtax their mental powers. So frequently does chorea in this class of children date from the worry and stress of examinations, that competition for prizes or places should be emphatically forbidden. The treatment of the attack consists largely in attention to hygienic measures. The medical treatment of the disease is unsatisfactory; with the exception of arsenic, no remedy seems to have any influence in controlling the progress of the affection. He has frequently given as much as 45 minims of Fowler's solution three times a day, and has never seen any ill-effects from the large doses. For its tonic effect electricity is sometimes useful; but it is not necessary as a routine treatment. The question of gymnastics is an important one. Early in the disease, when the movements are active they are not advisable; but during convalescence carefully graduated excercises are undoubtedly beneficial. It is not well, however to send a choreic child to a school gymnasium, as the stimulus of the other children and the excitement of the romping, violent play is very prejudicial.

Book Notices.

Essentials of Medical Chemistry. By Lawrence Wolff, M.D., Demonstrator of Chemistry, Jefferson Medical College. Fifth edition. Revised by Smith Ely Jelliffe, M.D., Ph.D., Professor of Pharmacognosy, College of the City of New York. Philadelphia, W. B. Saunders. 1899. 222 pages, including index. Price, $1.00 net.

This is one of the familiar blue series of Question Compends, prepared especially for the use of students. The plan of questions and answers is followed. The graduate will find in this little work a great deal of condensed information about organic chemistry which has only been taught in medical colleges within a comparatively few years. Works of this nature can scarcely elicit high praise from their necessary limitation to a brief setting forth of rudimentary principles, and one is apt to forget the conscientious attention to detail, alike by author, reviser and publisher.

Essentials of Diseases of the Skin, including the Syphilodermata. By Henry W. Stelwagon, M.D., Ph.D. Fourth edition; thoroughly revised. 276 pages. Illustrated. Philadelphia, W. B. Saunders. 1899. $1.00 net.

This little volume, now in its fourth edition, has undergone numerous small changes bringing it fully up to date as regards our present knowledge of the etiology, symptoms and treatment of skin diseases. The subject matter is systematically arranged, the descriptive clearly and tersely written, and the index so complete that the busy practitioner can quickly find what is required. It is an ideal book for the student, for the essentials only are given. It is gratifying to note that in the treatment for each disease the author is most definite in his statements regarding the strength, compositions, and time for using drugs and ointments. In many instances, formulae that have proved trustworthy are written out in full. The treatment of eczema, that most important

of all skin diseases, is complete and yet succinct. Several of the rarer forms of skin affections omitted in previous editions have been briefly described in this. Altogether, the compend meets with our hearty commendation. The publisher's work is up to the usual standard as regards illustrations, printing and binding,

Preliminary Catalogue of Plants Poisonous to Stock. By V. K. Chesnut, B.S., Assistant Director of Botany, Department of Agriculture, Washington, D. C.

This is an illustrated reprint from the Annual Report of the Bureau of Animal Industry for 1898, and, we understand, can be obtained free on application of properly interested persons to the Bureau at Washington.

31 illustrations accompany the work, which covers a wide botanical range, from molds, ergot, ustilago, and mushrooms to flowering plants. An interesting case is recorded of toxic (fatal?) catharsis in an infant fed on milk of a cow which had eaten mandrake. The western loco plants are described. These produce a sort of insanity among horses and cattle, the animal acquiring a perverted appetite for the plant and finally dying of inanition.

We regret that the little book scarcely touches on toxicology, but the great importance of an understanding of poisonous plants is emphasized from the commercial standpoint.

Medical Directory of New York, New Jersey and Connecticut, 1899.

This is the first of what, we understand, is to be annual series. The editor is Dr. Eliot Harris, and it is published by the Trow Directory, Printing and Bookbinding Co. The book is given to the members of the New York State Medical Association and of the New York and King's County Associations; to others the price is two dollars. Besides physicians, dentists and pharmacists are also listed. By-laws of the associations interested, laws governing the practice of the three professions, in the three states, the new dispensary law, etc., are included. Beside the ordinary directories by cities and towns, alphabetic lists by states are also appended. Office hours, telephone numbers, occasionally the notice of specialties practiced, name of college of graduation, in full, make the work especially useful.

Physicians' Visiting List, 1900-1901, with Special Memoranda, for 25 Patients per week; interleaved. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price, $1.00.

We have received the first of the Visiting Lists for next year, and it is fully up to the high standard established by a forty-nine year record. A handsome black leather pocket-book, excellent quality paper, two years' calendar, and the usual tables of signs, weights, measures, thermometers, etc. The Dose-table, compiled by Dr. George M. Gould, is unusually comprehensive, and particularly complete and accurate with reference to new remedies.

A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with one colored plate and three plates of microscopic preparations. Pages viii—204. The F. A. Davis Co., publishers, 1614–16 Cherry St., Philadelphia. Price, extra cloth, $1.00, net.

This is a student's guide to the laboratory method of instruction, furnishing directions for experimental work with a small stock of apparatus and reagents. The student is supposed to be acquainted with general chemistry and with chemical manipulation. By working industriously at the experiments herein suggested the student will no doubt profit greatly in practical knowledge, and will then find the study based on a standard text-book more interesting and comprehensible.

The physician in practice would, we believe, also find this manual interesting, perhaps prompting him to make experiments, or at least to brush up on knowledge not so thoroughly imparted in former days' college work as now.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

THE TREATMENT OF UTERINE HEMORRHAGES.

By SAMUEL M. BRICKNER, A.M., M.D.
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The successful treatment of irregular or abnormal bleeding from the non-pregnant uterus—the uterus of gestation not being considered in this short paper—depends entirely upon the correct diagnosis of the pathologic factor which is responsible. The etiologic elements are of so varied and different character that space for their individual presentation is not at this time available. The subject will consequently be treated here in its therapeutic aspects only.

The principle measures of treatment at our command for the relief of uterine hemorrhages are the curette, a few caustics, hot douches and the oxytocic drugs. These various measures have their individual indications as sharply defined as any other remedial agents. Their proper use will bring relief in many cases in which their abuse will miserably fail.

First in the list of irregular hemorrhages are the menorrhagias. If new growths of any kind can be eliminated from the causative factors, the general condition of the patient must be considered. Pulmonary tuberculosis and valvular cardiac diseases having been excluded, an anemia must be looked for. It is to be treated by a pill of this composition :

℞	Dried sulphate of iron. gr. 1,	0.065
	Extract of nux vomica, gr. 1/8	.008
	Arsenous acid..... gr. 1/30	.002

Mix. For one pill. One pill to be taken after each meal.

In conjunction with this tonic pill, the bowels must be moved daily by a mild dose of saline cathartic, out-of-door exercise is to be urged, and the patient is to have abundant sleep and rest. If she is a young girl she shall be taken from school and every measure brought into play which will strengthen and invigorate her. In this connection, the cramming process in vogue at the public and private schools may be held responsible for menorrhagia in many young girls, since it deprives them of opportunities for physical recreation. A single case will suffice as illustration.

Grace D., 18 years of age.—First menstruated at the age of 15. Always regular until five months ago, when her menses changed in type. She anticipated her flow by from three to four days, and instead of being unwell three days, her period extended over seven, sometimes nine days. She was a student at a private seminary, her sole exercise being a daily walk of 20 minutes. She was placed upon the treatment outlined above and in four months regained her normal condition.

If a menorrhagia is found dependent upon cardiac disease, treatment must naturally be directed toward these ailments, although not always with the prospect of relief or, at least, of cure.

The conditions are quite different when we have a menorrhagia the origin of which is a submucous polyp, a uterine fibroid of any variety or a malignant growth. These conditions may give rise for some time to no symptoms other than an increased flow at the menstrual epoch. There is but one method of treatment for a polyp when it is diagnosed; this is, of course, surgical. A submucous fibriod growth also demands surgical interven-

tion, but if it is not at once detected, as frequently happens, palliative means directed toward stopping the increased flow must be employed. Fibroid growths of the interstitial or subperitoneal variety may be similarly treated, when the indication for their removal is not present. The treatment of these conditions when they give rise to metrorrhagia appearing between the menses is the same, provided always that surgical relief is not proper at the time, or is impossible. All fibroid tumors, by the way, do not require removal at the moment of their diagnosis. Only when they are productive of much bleeding or of severe pain, or when they are undergoing cystic or malignant change, is the surgical demand urgent. Operable malignant growths, however, whether of the cervix or of the body of the uterus, present but one indication which is, naturally, radical removal.

When the operative procedure is not deemed wise for one reason or another, especially in the case of fibroid tumors, much can be done to relieve the increased flow of blood. Hot douches are helpful, but it is in this sphere that the drugs with oxytocic action are preeminently indicated. Ergot is not as useful as the fluid extract of hydrastis canadensis. Given in doses of half a drachm three or four times a day, it controls the irregular bleeding as a rule without resort to further measures. If the patient flows five or six days profusely, she may be given the drug on the third day with the result that, if the flow is not entirely stopped, it will at least be modified so that its weakening effects will be mitigated. Stypticin has of late taken, in a measure, the place of hydrastis in the treatment of these irregular hemorrhages as well as those of the menorrhagias of anemic origin. Its use has met with the approval of many gynecologists who report excellent results from its employment. Given in doses of one grain three times a day, in powder or cachet, it stops the flow even more certainly than hydrastis, although not always more quickly. The following case will serve to illustrate the rational use of stypticin :

Mrs. H. H., aged 47 years, the mother of four children, the youngest 7 years of age.—For two years she has noticed that her menses appear a day or two before they are expected. They last from 8 to 12 days, whereas previously the flow had stopped in from 4 to 5 days. The patient has had no pain referable to the pelvis, and considers herself in good health except for the irregular flow, which she referred to the impending menopause. A moderately large fibroid tumor of the subperitoneal variety was found. Considering the patient's age and the absence of symptoms, palliative treatment directed toward regulating the flow was decided upon. She was given stypticin, gr. 1 after each meal, to be taken on the fourth day of her menses, and to be continued if the flow did not cease. Since the patient was placed upon this treatment, the bleeding has been so well controlled that further measures have not been found necessary.

Uterine hemorrhage that follows sexual intercourse is exceedingly suspicious of a malignant cervical growth. If the examination proves that this surmise is wrong, it will almost invariably be found dependent upon an eroded cervix due to an endometritis. Many endometritides can be relieved by applications to the uterine mucosa of a 50 per cent. solution of the chloride of zinc. At the same time, the eroded cervix must be touched by an applicator carrying the same solution and a tampon of 10 per cent. ichthyol in glycerin is to be placed in the vagina. These applications may be made only at intervals of two weeks well between the menstrual periods. They will certainly cure the cervical erosion, although the endometrium may subsequently require the use of the curette. Astringent douches of equal parts of alum and tannin, one teaspoonful to a quart of water will be helpful. The bleeding from the cervix will thus be controlled and the patient's alarm

after each act of coitus or a douche will be quieted.

Malignant neoplasms involving the cervix or the body of the uterus, invariably give rise to irregular hemorrhages. If the case is an operable one when it is first seen, there is no question as to the treatment. If it is a recurrent growth or if it has advanced to a degree when operation is contraindicated by reason of its extensive involvement, there are still means at our disposal which will help to mitigate the moderate or severe bleeding. If the growth is located in the cervix, applications at regular, rather frequent, intervals, of tampons in 50 per cent. solution of zinc chloride will ameliorate the hemorrhage by their caustic action. This preparation of zinc has this advantage in this class of cases that it disinfects its own slough. If the neoplasm is situated in the body of the uterus, resort must be had to the oxytocic remedies already mentioned.

One of the most frequent sources of bleeding from the uterus for which the gynecologist is consulted is a threatened abortion, or abortion having taken place, the presence in the uterus of some decidual remains. In the former instance, rest in bed alone will sometimes forestall the abortion. Sedative remedies may be simultaneously administered. Among the best of these is the deodorized tincture of opium combined with the fluid extract of viburnum, ten minims of the former and half a fluid drachm of the latter. The rest in bed must be absolute. There must be no disturbance, physical or mental. If the bleeding still continues or grows worse or is accompanied by labor pains, the uterus will usually need emptying. This can be accomplished in one of the approved ways. If the patient presents herself, still bleeding, after the abortion has taken place, a careful exploration of the cavity of the uterus must be made. If placental or decidual rests are discovered, curettage will favor the return to the normal condition most quickly and most satisfactorily. If nothing is found in the uterus, however, the slight hemorrhage will probably be due to subinvolution and may be relieved by half drachm doses each of the fluid extracts of ergot and hydrastis, for here we desire to obtain a contraction of the entire uterus as well as of its individual fibres. If this simple treatment, supplemented by very hot douches, does not suffice, the curette must be resorted to. One must be careful when he is consulted because of bleeding in the early months of gestation that he does not overlook a tubal pregnancy. The history will give significant data and the examination will prove the correctness of one's suspicion. There is but one rational measure to pursue in the face of ectopic pregnancy, and this is, of course, the earliest possible removal of the gestation sac.

A source of uterine bleeding which does not usually receive the emphasis it deserves, is tubal or ovarian disease. A pyosalpinx, a bilateral salpingo-oophoritis, an ovarian cyst, may each of them be responsible for the irregular appearance of blood from the uterus. The ovarian ailment is to be cured only by operation; but inflammatory diseases of the appendages by no means require operation in every instance. While tonic measures, hot douches and measures directed toward the alimentary canal are to be advised, much can be done to relieve the inflammatory condition by semi-weekly applications of tampons of ichthyol (10%) in glycerin. If, as sometimes happens, these tubo-ovarian diseases call forth too frequent menstruation, as, for instance every two weeks, and the patiant becomes considerably weakened thereby, operative intervention must be considered.

In this cursory review of the therapeutics of the principal sources of uterine bleeding, account has been taken, as is plain, only of the baldest facts. Fine detail had necessarily to be omitted. Much that is pertinent to the subject has been left unsaid. Thus, no mention has been made of the employment of the extracts

of the thyreoid and mammary glands in the treatment of uterine fibroids, a departure in which much may be expected in the next few years. But a few cases have been cited to show the rationale of the treatment expressed. I have thus assumed a knowledge on the part of the reader so that this fact might stand out prominent: that in the treatment of uterine hemorrhages, success can be obtained only by the most painstaking efforts to establish the cause of the abnormality. The importance of this knowledge is secondary to that in no other field of medicine. Its acquirement may mean the life or death of the patient. When, too, the source of these irregular hemorrhages is universally sought with precision, there will be fewer deaths of women at the menopause whose carcinoma of the cervix was unknown and whose death was attributed to that exploded mystery, "the change of life."

136 West 85th Street, New York.

TREATMENT OF GASTRIC INSUFFICIENCY.

By J. W. Bell, M.D.,
Professor of Physical Diagnosis and Clinical Medicine, University of Minnesota.

Clinically, motor insufficiency of the stomach manifests itself in one of three forms, depending on the degree of impaired motility present. For all practical purposes it may be divided as follows:

1. Myasthenia with Stagnation: Slight muscular insufficiency, characterized by diminished elascity and strength of the muscular coat, as indicated by the inability of the stomach to empty itself within the normal period.

2. Myasthenia with Retention: Pronounced muscular insufficiency characterized by marked impairment of motility and increase in size, as indicated by inability of the stomach to empty itself, even during the night, hence constant retention of food with fermentation.

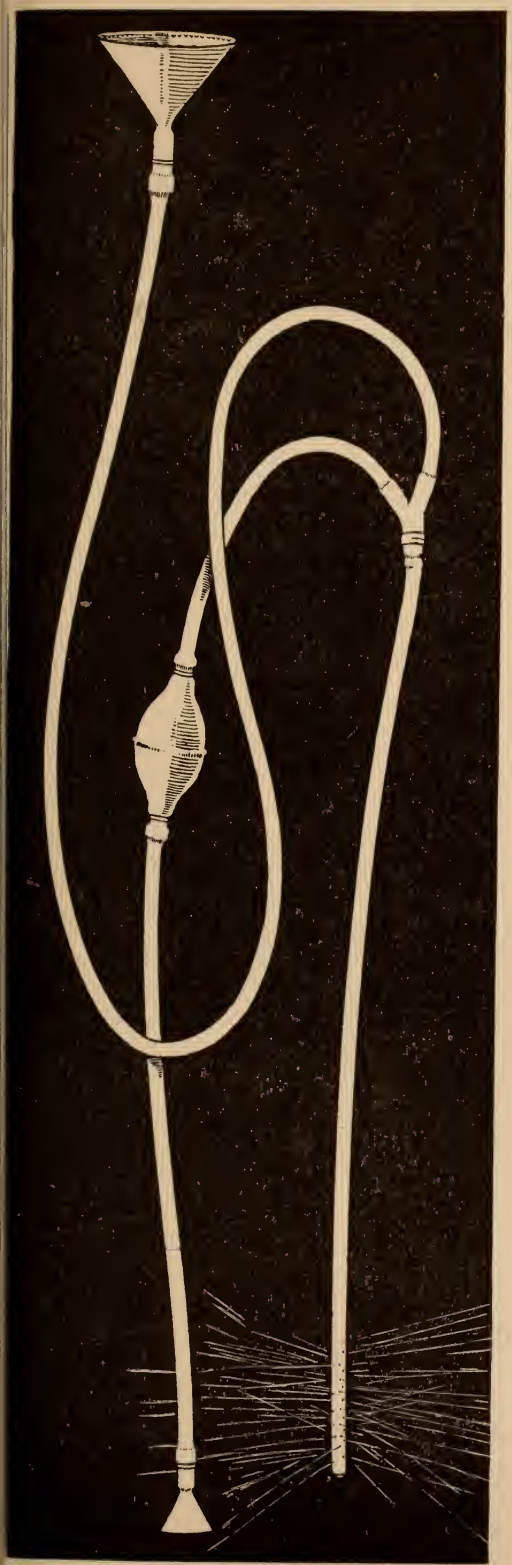
3. Myasthenia Due to Obstruction: Secondary motor insufficiency, due to pyloric obstruction, characterized by pronounced and progressive dilatation with constant retention, a surgical, rather than a medical problem, as to the treatment.

The aim and object of the internist should be an early and complete diagnosis. Having determined the existence of pyloric obstruction and its nature, he should then call to his aid the skilled surgeon. The interest of the internist naturally centres in the first and second forms of impaired motility, as observed in the clinical course of true motor insufficiency.

Diagnosis.—The limitation of the symptoms to the prolonged digestive period and their relation to the quantity of food and fluid taken at a given meal; the presence of gastric splashing, especially beyond the normal period of digestion; the delayed evacuation of the flabby distensible and slightly enlarged stomach, as determined by test meal and use of tube, render the diagnosis of myasthenia with stagnation positive.

When the myasthenia becomes so marked that the stomach never completely evacuates its contents, not even during the night, we have added the unfortunate symptoms of retention, fermentation and auto-infection constituting the second or advanced form myasthenia gastrica. The symptoms of the milder form become more severe. Appetite fails, flatulency becomes more pronounced, nausea, later vomiting occurs; the functions of the intestine become disordered; the urine becomes scanty; nutrition fails, as indicated by progressive emaciation. The physical examination reveals a flabby, dilated stomach with gastric splashing in the morning before taking food. However, the all-important diagnostic sign is the constant presence of food in the morning after a test supper, as shown by the use of tube.

Treatment.—Digestive hygiene should begin with birth, for, verily, the history of the average American stomach is a life-long story of insult and abuse. The diet



in myasthenia with stagnation should be selected wiith great care after a careful examination of the stomach contents. The food should be nutritious, small in bulk and non-irritating, avoiding an excess of starches and sweets, little or no fluid being allowed with meals. I desire to dissent from the view expressed by Hemmeter in his valuable book, that these patients should eat frequently and but little at a time; on the contrary, the stomach should be given time between meals to empty itself and have an interval of rest before introducing more food. The use of at least twelve ounces of hot water one hour before meals should be insisted upon, with the view of flushing the stomach. Having selected a diet, so regulated as to support nutrition and lessen the mechanical labor of the stomach, we place the organ in the most favorable condition to regain its lost musclar power. In addition, other means are necessary to relieve the disease. In the order of their relative value, I would place exercise, general and special, lavage in the form of the intragastric douches, massage, general and special, electricity, hydrotherapy, strychnine, etc.

Exercise should be taken in the open air, walking, riding or wheeling, never carrying to the point of fatigue. Exercises, tending to develop and strengthen the abdominal muscles, are especially valuable. Lavage in the form of the intragastric douche, four or five hours after meals, or preferably at bedtime, using hot and cold water, alternating, medicated, if indicated, thoroughly disinfects the gastric mucosa and stimulates and tones the muscularis, practically securing, as suggested by Van Valza and Nisbet, in their eminently practical work, all the beneficent tonic effects of an intragastric shower-bath. During the past twelve months I have secured excellent results in advanced cases of myasthenia with retention, associated with marked dilatation, by using every second day the combined stomach tube and douche constructed for me by

the Davidson Rubber Company. I have found the intragastric douche invaluable in the treatment of motor insufficiency and all non-obstructive forms of the gastric dilatation, applied, as suggested above, by means of the combined tube and douche. The outflow tube placed in action by compressing the bulb keeps the stomach drained, thus enabling the numerous small streams issuing from the perforated jacket to come in direct contact with and thoroughly cleanse all parts of the gastric mucosa, but more important still, it stimulates and tones the muscularis more rapidly and more efficiently than any other agent at our command. (See cut of instrument.)

Massage, general and special, is an invaluable aid if judiciously directed by the physician and systematically performed by a competent masseur. On the other hand, massage is capable of doing great harm if left to the average masseur. Employed four or five hours after meals and only in advanced cases after lavage, it improves the general nervous tone—aids in emptying the stomach, relieves associated intestinal torpor, strengthens the abdominal wall and improves the abdominal circulation.

My experience with electricity leads me to believe that its beneficial influence over motility and secretion has been overrated. It may be used internally or externally—galvanism or faradism as indicated.

Hydrotherapy, in the form of shower or salt water sponge baths, is useful, especially with neurasthenic classes. The alternating hot and cold shower applied over the abdomen and to the spine exerts a beneficial influence in both forms of Myasthenia Gastrica.

As to drugs, strychnine should be given in generous doses, combined with acids or alkalies as indicated by examination of stomach contents, aided by the use of gastric antiseptics if required to control fermentation.

To summarize:—Treatment aims to improve the power and efficiency of the gastric muscle, to control fermentation, and to maintain the balance of nutrition.

Minnneapolis, Minn.

A CONTRIBUTION TO THE TREATMENT OF ACUTE RHEUMATISM.

By G. C. H. Meier, M.D.

Although acute articular rheumatism is one of the most prevalent diseases during the cold season of the year, it seems strange that, notwithstanding the immense progress in medicine during recent times, not more is known regarding its pathology. There seems to be a tendency at the present time to regard certain cases, at least, of bacterial origin, and as due to an infection through attenuated pus organisms. Cases have been reported in which there seems to have been an etiological relationship between some pus focus and the development of the rheumatic affection. Another argument that has been adduced in favor of the bacterial origin of the disease under consideration is the value of salicylic acid and its derivatives, which by the adherents of the bacterial theory of rheumatism is ascribed to the antiseptic properties of these drugs. The majority of authors, however, are still inclined to attribute articular rheumatism to the action of uric acid upon the fibrous structures of the body, the deposition of insoluble urates producing irritation and inflammation. Whether in rheumatic subjects uric acid is produced in excessive quantity owing to some defect in the vegetative organs, or whether its accumulation in the blood is the result of defective elimination, is still a matter of question.

It is fortunate, however, that, although our knowledge of the pathology of rheumatism is still so imperfect, we have in salicylic acid a remedy which may be regarded as almost a specific in disease. My experiments with the salicylates during the past 20 years has, however, convinced me of the difficulty of administering them in many cases; even if administered in capsules or wafers many patients object to salicylate of sodium on account of the resulting disturbance of the stomach, as evidenced by nausea, distress in the epigastrium, and even vomit-

ing. Occasionally, I have also witnessed headache, tinnitus and vertigo during its use, although it has been my good fortune never to have noted its depressing action upon the heart, to which attention has been called by some authors. The latter I would attribute to its use in excessive doses; and this brings up a point to which I would call atiention here: While in robust vigorous persons the salicyates may be admiuistered in large doses at frequent intervals, in cases of weakly and delicate persons they should be administered cautiously, and sometimes it will be found advantageous also to give them in connection with some tonic, such as the compound tincture of cinchona. Frequently after the acute stage has passed it will be found advisable to administer an iron preparation, and for this purpose the tincture of chloride of iron was frequently highly recommended.

On the whole, the use of the salicylates in the treatment of rheumatism would leave nothing to be desired if we could obtain them in such a form that they would be free from disagreeable irritating effects upon the stomach, which sometimes necessitate their discontinuance during prolonged administation, or demand such a reduction in the dose as to impair the efficiency of the treatmeut.

Some months ago my attention was drawn to an article in the *Therapeutische Monatshefte*, No. 5, 1899, by Dr. Julius Wohlgemuth, detailing his experience with a new salicylic derivative in the Medical University Clinic of Professor von Leyden, in Berlin. The new remedy, aspirin, was said to have the identical action of salicylic acid, except that owing to its chemical combination it was claimed to be free from any disturbing influence upon the digestive organs. With a view of determining for myself the correctness of this statement I procured a supply and employed it as a general substitute for the salicylates in rheumatism. My experience thus far has been so satisfactory that I believe we have in aspirin a means of giving salicylic acid which will commend itself not only to the physician but also to the patient.

Aspirin is a combination of salicylic acid and acetyl, and appears in the form of white crystalline needles. It is insoluble in water and acid fluids, but in alkaline fluids is decomposed with the liberation of nascent salicylic acid. Owing to these chemical characteristics it passes unchanged through the stomach, and is not decomposed until it reaches the intestinal canal, thus avoiding any action upon the stomach. The dose of aspirin is the same as that of salicylate of sodium. Owing to its insolubility I generally placed the desired dose upon a tablespoon, adding some sugar and water. The taste is rather pleasant and slightly acid, and the addition of sugar renders it very agreeable to the patient.

From my experience with aspirin up to date I am able to assert that its effect differs in no wise from that of salicylate of sodium, and that it has the advantage of being entirely devoid of troublesome effects upon the stomach. My observations, which are illustrated by the cases reported below, are confirmatory of those obtained by Wohlgemuth, Witthauer and Lengyel.

Witthauer (*Die Heilkunde*) has employed the drug in over 50 cases of acute articular and muscular rheumatism, and like myself found that it was tolerated in cases in which the salicylates had to be discontinued, while its effect was, at least, equal to that of the latter. It never disturbed the appetite even during continued use, and never produced depressing effects upon the heart. The latter circumstance, which I have also observed, is probably due to the fact that owing to the gradual decomposition of aspirin in the intestinal canal, the absorption of salicylic acid is continuous, and never takes place in such large quantities as to produce cardiac depression or nervous phenomena. That sufficient of the drug is taken up into the system during its gradual absorption to combat the rheumatic virus, whatever it may be, is shown by the rapid disap-

pearance of the pains and swelling, the reduction of fever, and the subsidence of the articular inflammation. Convalescence in some instances in which I employed aspirin was also somewhat shorter than with the salicylate treatment, and this I would attribute to the fact that the patients preserved their appetite, and therefore were able to dispose of a larger quantity of nourishing food.

The following cases illustrate the action of aspirin and render it unnecessary to go into further particulars regarding the action of the remedy:

Case 1.—Mrs. M., aged 35 years, had been previously treated by a homeopathic physician who advised her to go to the hospital as he was unable to afford her relief. I found her suffering from an attack of acute articular rheumatism of the elbow joint. The joint was swollen, hot, and so painful that she was unable to bear the slightest pressure; the temperature was somewhat elevated. I ordered applications of compresses soaked in a hot solution of carbonate of sodium, covering them with oil silk, and renewing the application every two hours. Aspirin 15 grains was given every two hours. At my first visit on the following day the patient expressed herself as greatly relieved; the joint was still tender to the touch; the swelling and inflammation had subsided. The remedy was continued. Owing to the presence of constipation a bottle of citrate of magnesia was ordered; milk and seltzer was given for nourishment. Under the use of the remedy the case progressed satisfactorily, the patient recovering after one week's treatment. Passive motion had to be employed for two weeks before the stiffness of the elbow joint had entirely disappeared.

Case 2.—Henry D., aged 12 years, presented symptoms of an acute rheumatic affection of the knee-joint, which was swollen and tender; the temperature was 103°, the pulse 120. Chloroform liniment was applied and the knee joint enveloped in cotton batting. Aspirin was ordered in doses of 10 grains every two hours; the bowels were kept freely open and the diet regulated. Improvement took place and the patient was free from pain and fever at the end of four days. Recovery was uneventful.

Case 3.—Emma D., aged 20 years, had acute articular rheumatism affecting the wrist-joint. Hot applications were made to the wrist, and aspirin, 12 grains, given every two hours. The bowels were regulated with rochelle salts. The pain and swelling diminished within 24 hours, when the other wrist became inflamed. A lotion of ol. gaultheria and sweet oil was applied to the affected parts, and the aspirin administered at more frequent intervals for a number of hours. In the course of ten hours the inflammation began to abate, and from that time on improvement was steady, the patient being dismissed from treatment at the end of two weeks.

Case 4.—Annie G., aged 30 years, had been a sufferer from rheumatism for three years. At the present time the right elbow joint is swollen, inflamed, and exquisitely tender; temperature 104; pulse 120. Aspirin was administered in 20 grain doses every three hours; the pain and swelling abated within twelve hours, and there was a gradual fall of temperature. The remedy was continued in decreasing doses, and recovery resulted in ten days.

Case 5.—Nathan M., aged 30 years, came under observation with a rheumatic inflammation of the right ankle-joint, from which he had been suffering for two days. Aspirin was given in 20 grain doses every three hours, the dose being gradually reduced as the inflammatory symptons abated. The bowels were regulated, and hot applications made to the joint. No cardiac symptoms were observed. A cure occurred in the course of nine days.

Case 6.—Katie D., 25 years old, had been attacked three days before with acute rheumatism of the knee joint; the temperature was 103, and the pulse 120. A dose of castor oil was ordered as the

bowels were somewhat costive, and local applications of chloroform liniment were made to the affected joint. Internally, aspirin in 15 grain doses every two hours was prescribed. The inflammation and swelling were considerably reduced in 48 hours. The recovery was uneventful, without complications.

Case 7.—Otto M., 50 years old, was found suffering with acute articular rheumatism of the left knee. The same local treatment was applied as in the above cases. Owing to the presence of severe pains, tinct. opii deodor. 20 drops was given every hour until relief was afforded. Aspirin, 20 grains every three hours, brought about a reduction of the inflammation in 48 hours. The bowels were regulated with citrate of magnesia, and local applications of a hot solution of carbonate of sodium were ordered. The subsequent progress of the case to recovery was uneventful. No cardiac complications occurred.

Case 8.—Joseph R., 19 years old, was seized with acute rheumatism in the knee-joints two weeks ago. Under ordinary salicylic acid treatment the pain diminished, but the administration of the remedy had to be discontinued on account of the severe gastric disturbances which it produced. Aspirin was substituted in doses of 15 grains every two hours which acted equally efficiently, subduing the inflammation without disturbing the stomach. The patient was kept on aspirin without any trouble for four days, when he considered himself cured.

Case 9.—Charles F., aged 16 years, has had a severe attack of scarlet fever, during the course of which the wrist and knee-joints became tender and swollen. Aspirin, in 10 grain doses, was prescribed three times daily with excellent effect, the pain diminishing and the swelling disappearing in 48 hours The drug was continued in smaller doses for three days more as a preventive against a recurrence of the inflammation. The case went on to recovery without further complications.

Case 10.—Fanny W., aged 40 years, had frequently suffered with articular rheumatism during the last three years. The last attack obliged her to keep in bed for six weeks. At present she presents a swollen and inflamed knee-joint and also rheumatic endocarditis. In her previous attacks salicylate of sodium had been employed, but it was always found very difficult to continue its use for any length of time, as it caused tinnitus aurium and vomiting when taken in large doses. For this reason a trial was made of aspirin during the present attack, the drug being given in doses of 20 grains every three hours. It was well tolerated, and no complaint was made by the patient as to any unpleasant sensations in the head or stomach. She continued to take these large doses for four days, when they were reduced to 15 grains every four hours, as the inflammation and swelling of the joints had to a considerable extent abated, and the pain over the heart had also disappeared. The patient made a complete recovery in three weeks.

Case 11.—Peter S., 75 years old, had been a constant sufferer with acute rheumatic pains in the joints. At the time he came under my observation he had an acute attack of rheumatic arthrititis of the wrist and ankle-joints, for which he was taking salicylate of sodium in moderate doses. The effect of the drug, however, was not satisfactory, as the pains, although diminished, still caused much distress. Aspirin was substituted in doses of 20 grains, three times daily, and at the end of twenty-four hours the patient stated that he was almost completely relieved of the pains. The remedy was continued in diminishing doses, and at the end of a week the patient considered himself perfectly well.

Case 12.—Kate L., aged 29 years, was found suffering from her first attack of acute rheumatism of the elbow-joint. Before initiating treatment with anti-rheumatic remedies she was given a purgative dose of calomel; locally liniment

of aconite and chloroform was applied; salicylic acid in 15 grain doses every two hours was administered. After taking the latter for two days severe vomiting set in, which the patient ascribed to the drug. It was therefore discontinued and salicylate of sodium in 20 grain doses was substituted. This, however, did not agree much better, the patient complaining of vertigo, tinnitis aurium, and distress at the pit of the stomach. Aspirin in 15 grain doses every three hours was then exhibited, without producing the least disturbance. Under its administration the inflammation rapidly abated, and the pains and swelling disappeared. After two weeks' treatment with smaller doses of aspirin the patient was discharged from treatment perfectly cured.

347 Manhattan Ave., New York.

GLEANINGS IN TOXICOLOGY.

Carbolic acid, externally. Brougham, *Med. Review*, collects about 50 cases of gangrene, including one of his own in which gangrene of a finger was due to the application of 3 per cent. salve to a trifling wound.

C. O. Smith, *Brit. Med. Journ.*, has investigated five cases of gas poisoning. His results agree with the accepted idea that CO is the active toxic agent and that death is due to saturation of hemoglobin so that oxygen can not be carried.

The *Maine Journal of Medicine and Surgery* states that a woman who remains fifteen minutes in a newly painted room, is liable to abort, on account of the oxytocic action of turpentine. Is our esteemed contemporary interested in the paint trade or are the painters down in Maine more liberal with genuine turpentine than in other parts of the country?

Taylor and Marshall, *Brit. Med. Journ.*, conclude that there is no definite antidote to digitalis. The indications are (1) withdraw the drug, clear out the alimentary canal by a cathartic and force elimination by water and diluent diuretics; (2) allay sickness and other symptoms; (3) reduce arterial tension, if high with nitroglycerine. If tension is low, use alcohol.

The *Medical News*, Oct. 28, 1899, contains a brief reference to the death from meat-poisoning of two London working women, the source being salt fish from the same market stall. Bacteriologic investigation by Prof. Stewart of University College demonstrated the presence of a bacillus of the typhoid group. Reference is also made to the classic case at Sabine, Iowa, in which 40 or more guests at a wedding suffered from meat poisoning due to chicken salad.

At the International Congress of Gynecology and Obstetrics, Drs. Chambrelent and Brutere reported that experiments with quinine had produced contradictory results, sometimes uterine contractions being produced while, at times, the drug seemed to act as a sedative to the uterine muscle. They considered that quinine should be administered cautiously to pregnant women. Dr. Davis, of Philadelphia, expressed the general American sentiment that there was no clinical danger from the use of this drug.

FORMALIN.—From several correspondents we have received criticisms on Dr. Van de Warker's article on Formalin, published in our last issue. The writers are of the opinion that the good qualities of formalin were properly emphasized, but that the manner in which its potential dangers were presented was exaggerated. They also point out that an injustice was done the manufacturers, since it is on record that their earliest publications, circulated simultaneously with the introduction of the product in 1893, contained full account of the properties and limitations of formalin, covering every point scored by Dr. Van de Warker. A reference to our files, by the way, shows that in the AMERICAN THERAPIST, June, 1893, page 316, was published a description of Formalin, familiarity with which would have prevented the misuse of the product in the cases quoted by Dr. Van de Warker. And the same information is recorded in all standard reference books.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR,
BUFFALO, N. Y.

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Editorial.

THE DOUBLE-FLOW STOMACH-TUBE.

The invention of a satisfactory double-flow stomach-tube has been, to gastro-enterologists, what squaring the circle has been to mathematicians. There are four possible methods of attacking the problem: 1.—The passage of a small tube through the lumen of an ordinary, large gastric sound, after the fashion of the colon tube and as carried out by the editor; 2.—The use of two small tubes, side by side. TURCK, of Chicago, has devised such a method, the two being cemented together and one being longer than the other so as to reach to the fundus—we understand that this is not correct anatomically—of the stomach. Dr. JOHN T. PITKIN has used ordinary pure gum tubes, entirely unconnected. 3.—The Y-tube, continued into a tube whose middle is crossed by a thin septum. This has been used in Germany and has subsequently, though apparently without knowledge of its former use, been announced by HEMMETER, of Baltimore. 4.—The incorporation of the inflow tube in the wall of the other. This was the method proposed by the editor, several years ago, but he could not get it carried into execution.

Dr. BELL'S tube which is figured and described in the present issue, involves both of the latter two principles, if we understand his diagram and specifications aright. All things considered it is the most satisfactory double-flow tube of which we know. Indeed, our other double-flow tubes were long ago dismantled and abandoned. The double-flow tube has obvious advantages, it also has two limitations that must be thoroughly understood before attempting to use it. One of the most practical points in lavage is to guard against accumulation of water in the stomach. With the single-flow tube, the input and out-take can be quite accurately and rapidly measured. With the steady inpour through Dr. BELL'S tube, the sensations of the patient—previously warned—must be carefully watched and the inpour must be occassionally interrupted to make sure that too much water has not been collected in the stomach. The other limitation is that the double-flow tube is out of the question for really emptying the full stomach, unless the meal taken has been exceptionally well masticated or has been specially chosen for its ease of digestion. This is merely a matter of dimensions. The largest tube that can be readily introduced, has an internal diameter of considerably less than a centimeter, usually less than half a centimeter. The wall must be of considerable thickness to combine the requisite elasticity and rigidity, and enchroachment by a second tube either on the wall or on the lumen, means interference with the removal of food remnants. This difficulty, if obviated at all, must be done by perfecting the fourth method and by having the septum very thin and elastic, so that one tube may yield its lumen to the other, as needed, Granted, however, a fairly empty stomach, Dr. BELL'S tube is an ideal instrument for cleansing and medicating the mucosa and for exercising the gastric muscle. Through it, we have used successfully our method of spraying menthol in liquid petrolatum, described in the *International Medical Magazine* of

1892, an impure mineral oil being then used as a matter of necessity. There is one minor point, for which we are particularly grateful to Dr. Bell—the generous length of tubing employed, facilitating manipulation of his instrument.

DRUGGING PATIENTS, AND SOME OTHER THERAPEUTIC FAULTS.

Everyone knows that drugging patients is a sin; the homeopaths taught this doctrine a hundred years ago, and within the last two generations the regular profession has preached it with scarcely a dissenting voice. Among the therapeutic methods that have been suggested to take the place of medicines are: electricity, rest, including travel and climate, and that extreme form of vegetative existence, which, however fatiguing to the patient, is called the rest cure, hypnotism, hydrotherapy, massage, gymnastics, dieting, not to mention such charlatanry as the prayers of not very religious persons, walking bare-foot, envelopment with mud, etc.

Electricity, which seems destined to revolutionize the commercial world, has proved a disappointment to most physicians. The cheap faradic battery is recognized to be of little use save to shake up voluntary muscles, and the galvanic battery of a decade ago is known to be too weak to have much more than a counter-irritant effect. Electrolysis of tumors is no longer hoped for by more than a very few physicians, while the puncture of the electric pole has been shown to be distinctly dangerous in some cases. Coils of considerable length and fineness, or static machines, produce interrupted currents that are sedative to sensory nerves, and there is a considerable though minor field of usefulness for steady and even for ordinary interrupted currents. Still, electricity as a direct therapeutic agent is of less value than as a source of heat for cauteries, in producing X-rays, or in generating light and power for centrifuges, circular bone-saws, etc.

Rest and inactivity are by no means synonymous. Change of scene and occupation, agreeable mental or physical exercise are often of greater service than vacuity of mind or relaxation of muscle. Too many physicians advise trips away from home and other means of rest involving abandonment of work, without due appreciation of what it means to interrupt a professional or business man's life occupation. In many instances the carrying out of such advice would mean financial ruin and a degree of worry and dispair far worse in its immediate physical effect than overwork. Unless the circumstances are peculiar, the medical skill used in prescribing rest consists in having the patient utilize, to the best advantage, the small fragments of leisure that are at his command while his daily regimen as to eating, sleeping, amusement, etc., are carefully planned, at whatever social sacrifice.

Many sins have been committed in the belief that scientific application was being made of climatology. Only recently the medical profession of Colorado have had to remind the profession of the country at large that it is cruel to send a dying patient on a long journey, that it is wrong to encourage the hope that climate alone will accomplish a miracle for consumptives who have not the means to rest and take care of themselves properly, while the evidence of good results obtained at all temperatures and at very different altitudes shows that the factors of rest and out-door air are at least as important as any specific, local climatic condition.

The rest cure, as typically described, certainly reduces physical and mental wear to a minimum, but it also tends to inculcate habits of invalidism and laziness which, to the weak, hysteric and overwrought women who are so frequently subjected to this treatment, are demoralizing mentally and morally. In neurotic conditions there rests on the physician a grave moral responsibility not to abolish the realization of responsibility which is

due from every human being who is compos mentis.

Hypnotism is now almost universally conceded to be an unjustifiable means of gaining an ascendency over another's mind, except under unusual conditions. By adopting this means of treatment for nervous disorders, for instance pseudo-paralyses, we first confirm in the patient's mind the reality of an imaginary trouble and then seek a cure by what the patient considers supernatural means. In short, we remove a symptom but strengthen the underlying hysteric disease. Firm, kind influence, assisting the patient to regain a mastery of self, is the only radical treatment of such conditions as have been thought most appropriate for hypnotism.

Hydrotherapy, external and internal, is an excellent method whenever there is dirt—in the broadest sense internal as well as external—to be removed, or whenever changes of temperature may be used either for their direct effect or to control the vasomotors or centres of nutrition. Too often hydrotherapy has been used blindly, and in cases in which the organism, in its best state of health, would not be able to react properly to the shock of change of temperature.

Massage is a valuable remedy to drag rather than push the current of an enfeebled circulation, to remove waste products, to improve local nutrition, but unfortunately it has been employed when the need was not so much to exercise muscle and to squeeze out waste products as to overcome a general laziness.

Gymnastics has been overestimated in direct proportion as we have confused muscular bigness with visceral well being. In most gymnasia strain has not been adequately guarded against, the atmosphere has been allowed to become foul with perspiratory and respiratory excreta, and the influence of sunshine has been ignored. When we remember that practically all athletes are affected with serious visceral disease and that they are usually short-lived, we grow sceptic as to the desirability of training in civilized man muscles which the law forbids him to use.

Diet might naturally be supposed to be our stronghold. On the contrary, beyond advising against the use of food fit only for herbivora, against the use of food in improper quantities and at improper seasons, and against beverages and condiments and certain decomposed delicacies which are essentially toxic, we believe that dieting should be used only transiently during fevers or in a few exceptionally serious digestive conditions. Two physiologic principles are frequently overlooked: 1. that the stomach and probably the lower digestive organs need the stimulation of appetite and of variety; 2. that beside fats, carbohydrates, proteids, water, and sodium chloride, the system requires a number of inorganic ingredients or of simpler organic compounds, such as vegetable acids, which we cannot order on account of our ignorance of physiologic chemistry, and which the body must pick up from a large variety of foods ingested.

In speaking somewhat slightingly of the various forms of therapeutics which many enthusiasts have suggested might supplant therapy by drugs, we do not intend to condemn them but simply to point out that no method of treatment, however imponderable, can be used recklessly or indiscriminately. There is no royal road to any attainment of human skill, and there is no therapy that is, in itself, noble or base. The disadvantages of drugs are so obvious and have been so often and so eloquently presented to the profession, that it has seemed proper to present another side of the matter that has seldom been considered.

Vogt, (*Deutsche Med. Zeitschrift*), advises massage from left to right of the stomach and over the course of the colon, whenever any liquid is introduced into the respective cavity for its local effect on the walls of the organ. The value of the massage is to secure an equal distribution of the medicament.

Current Literature.

Caldwell, in the *Pharmaceutical Era*, gives the following formula for a genuinely flexible collodion:

Glycerin	2 parts
Venice Turpentine	5 parts
Lard	10 parts
Collodion	83 parts

Sixteen Years' Experience with Gonorrhea.—Vogl, in the *Münch. Med. Woch.*, summarizes the experience in the military hospitals with gonorrhea. The old method of general treatment, hygiene, dietetics, rest, milk, cold applications, etc., required an average of 45 days. Niessen, 1896–7, used silver salts as injections, treatment occupying 40 days, but with some cases discharged uncured. In 1897–8, silver nitrate, potassium permanganate and protargol were successively used, with a duration of 42 days, but a few were discharged uncured. Various remedies were tried and discarded, for one reason or another —hydrochinon, iodoform, thallin, zinc salts, sozoiodol.

Modifications of Crédé's Method of Expressing the Placenta.—Budberg, in *Der Frauenarzt*, No. 160, slips the right hand palm forward behind the uterus, grasping the uterus above the symphysis with the left hand and pressing with the palms. The late Dr. F. W. Bartlett, of Buffalo, devised a similar, unimanual method, presssing the fundus between the thumb and fingers with lateral movements. Having had no obstetric cases since learning of this modification, we are unable to speak from personal experience. Certainly, either modification is preferable to the method—for which Crédé should not be held responsible—of making a cup of one hand and exerting all the force of both arms directly backward so as to press the uterus against the symyhysis. One physician,. of considerable prominence, even taught that the nurse should reinforce the doctor's muscle. Violence is to be deprecated in all medical procedures, most of all in obstetric practice.

Treatment of Epilepsy.—In a paper read before the Central New York Medical Association, at Syracuse, Oct. 17, 1899, Dr. Wm. P. Spratling, of Sonyea, emphasized the need of attention to hygiene, digestion, etc., and to the deleterious influence of the anxious parents. As a nerve sedative, he recommended the fluid extract of horse nettle, which is tonic and does not interfere with digestion. Simulo was also favorably mentioned. While the Fleichsig treatment with opium, etc., is now discarded, there are occasional cases which have a prolonged aura and in which it is expedient to check the threatened convulsion by administering the following formula:

℞ Potassii bromidi	gr. 30	2.00
Chloralis	gr. 20	1.25
Morph. sulph	gr. ¼	0.015

He mentioned one case in which the aura consisted in a gradual elevation of the hands, culminating in a typic seizure when the hands were joined above the head. The warning was so ample that the convulsions were warded off for some months, but a cure did not take place, the patient finally having a terrific seizure.

The Dissolving Action of Digestants.—Dr. T. R. Chambers, in the *Journal Am. Med. Ass'n*, Nov. 4, 1899, describes the use of a hydrochloric acid and pepsin mixture made directly from the pig's stomach, for dissolving sloughs in the ear, nose, and even eye cases. Acute and chronic suppurative otitis polypus of auditory canal (after ordinary surgical removal), exfoliation of the nasal bones, sloughing corneal ulcer are mentioned as demonstrating the success of treatment.

While injections of hydrochloric acid have been used to dissolve carious bone—perhaps with the additional effect of partially peptonizing proteid matter,—the use of digestive ferments has been ignored in surgery, unless the trypsin, papain, etc., on diphtheritic membranes be included under this head. Several years ago, we tried to attract the attention of surgeons to the possibility of digesting away the

cores of carbunkles, sloughing tendon ends, etc., by mixtures of hydrochloric acid and pepsin, but with very little success, though the results in a few cases which we took outside our regular practice, resulted favorably. It seems altogether likely that the more rapid progress of certain ulcers under the old septic methods, as compared with antiseptic treatment, was due to the peptonization of proteid debris by bacteria. Whatever benefits the older methods may have had, may be increased without the accompanying drawbacks, by the local application of extract preparations of digestants..

Treatment of Typhoid Fever.—Liberal Diet.—Dr. Edwin F. Wilson, of Columbus, has an excellent article in the *Columbus Med. Journal*, relating to the management of typhoid cases. His hygienic management differs little from the standard, except that he believes in sponging, the old standby, and that he takes the special precaution, which ought to be followed in all infectious diseases, of forbidding food and drink to be used after they have stood in the sick-room. Water is given ad libitum and is administered in considerable quantities if the patient is too delirious or stupid to ask for it. He prefers soft semi-solid food to liquids, except that, if there is excessive tympanites, the diet is restricted to milk. Mild laxatives are used as needed. For diarrhea, bismuth subnitrate; for perforation or hemorrhage, morphine. If the tongue becomes dry in the septic stage of the fever, that is in the third week, two drops of liq. sodii arsenitis are given every three hours. He believes in internal antiseptics. He rightly objects to fever mixtures, coal-tar derivatives, including quinine, diuretics, and similar meddlesome therapy. He reports most excellent results, 151 cases with only two deaths. We wish that the extreme hydro-therapists could see these statistics, as it seems difficult for them to find any but extremely unfavorable lists of cases treated without the use of the bathtub. While milk is often spoken of as a complete food, it should be remembered that it is lacking in iron, organic iodine compounds, and other necessities of the organism, and that it is complete only in the sense of supplying enough proteid, carbohydrate and fat and water, and not even these in the best form nor in the proper proportions for the human adult.

Lubricant for Catheters, etc.—

℞ White castile soap	ʒ j	30	
Water	ʒ iij	90	
Mucil. of chondrus crispus	ʒ iij	90	
Formalin (40%)	♏ x		60
Thymol	gr. v		30
Oil of thyme	♏ v		30
Alcohol	♏ xv	1	

Heat soap and water and stir till a homogeneous paste is formed. Add the mucilage (1 part to 16 parts); cool; add formalin; dissolve thymol and oil of thyme in alcohol and add; stir, strain and keep covered till bubbles have vanished. Instead of formalin, the same amount of chloral hydrate, half the amount of chloroform, or three times as much boric acid may be used.—J. W. S. Gouly, in *Journ. Am. Med. Ass.*, Nov. 4, 1899.

Antitoxin in Diphtheria.—The report of the committee of the London Clinical Society on the Antitoxin Treatment of Diphtheria gives a concise and clear account of the beneficial effects of the use of antitoxin in diphtheria, and cannot fail to make all who read it, recognize the imperative duty of injecting the serum, as soon as the diagnosis of diphtheria has been made.

The report is made upon 633 consecutive cases (not specially selected), with the necessary requirements that there must be satisfactory evidence of the existence of true diphtheria, and a statement of the number of units of antitoxin used.

Of the 633 cases, 124 were fatal, *i.e.*, 19.5 per cent., aad if 15 cases dying within twenty-four hours are excluded the mortality is reduced to 15.6 per cent.

With this result are compared 448 unselected cases not treated by antitoxin,

amongst which 150 proved fatal, giving a mortality of 33 4 per cent.

Another non-antitoxin series is also contrasted by picking out in each, the cases in which the larynx was affected, when the mortality in the antitoxin series was found to be 23.6 per cent. whereas, for the non-antitoxin series it was as high as 66.6 per cent., the most marked diminution in the percentage mortality being during the first four years of life, and similarly where tracheotomy become necessary, a mortality of 71.6 per cent. in the non-antitoxin cases was reduced to 36 per cent. in the antitoxin cases.—*Archives of Pediatrics.*

Treatment of Acid Gastric Catarrh.—Boardman Reed, in the *Int. Med. Mag.*, Sept., 1899, very properly condemns the use of an excess of meats which were formerly advised to take up the excess of HCl. Our own clinical experience agrees with that of Reed, and the experiments of Hemmeter that meat diet stimulates the acid secreting glands. We have also noticed that persons with a hearty appetite for meat crave large quantities of NaCl, from which HCl is mainly derived. Milk, eggs, gluten preparations, toast, zwieback (which we personally consider not better than thoroughly made toast and much less palatable), an abundance of butter and other fats, vegetable purées, baked or boiled mashed potatoes, string beans, spinach, squash, macaroni, etc., may be included in the diet list. Condiments are to be used sparingly. Tea, coffee and liquors stimulate the gastric glands and should be avoided. Water is an excellent beverage. Reed allows chocolate, beer, ales, etc. We prefer very weak cocoa, believing chocolate to be similar in deleterious effect to tea and coffee.

The use of the stomach tube and burette is emphasized as a necessary basis of treatment. Severe infection of the stomach with yeasts and bacteria, which Reed mentions, we have not encountered in this disease, perhaps because we do not allow beer, probably because our standard of normal gastric acidity is much higher than that of Reed.

Endogastric galvanism we have scarcely used for years. Reed gives some excellent formulae as follows:

℞ Magnesiae ustae gr. v—xx
Cretae prep. gr. ijss—x
Bismuthi subnit... gr. v—x
S. Such a powder in a wineglassful of water or milk, 1 hour, etc.

Belladonna, large doses of bismuth, silver nitrate pills, etc., are also advised as sedatives. A favorite method is spraying the stomach with 1:1000 to 2:1000 solution of silver nitrate, after lavage. Except heavy oily sprays, like menthol or salol in liquid petrolatum, we prefer to introduce drugs into the stomach in solution and insure contact with all parts of the gastric wall by posture, instead of relying on the spray. Reed's article contains a number of valuable hygienic hints.

Sherwood-Dunn (*Jour. A. M. A.*) applies cocaine and then pure lactic acid to anal ulcers, as a caustic.

Therapy of the Nitrites.—Dr. J. N. Upshur, in a paper presented to the Virginia State Medical Society, and published in *Charlotte Med. Journal*, after speaking of the control of epilepsy, says:

"Both nitro-glycerine and nitrite of amyl will cut short the cold state of intermittent fever. The latter often lowers temperature, sometimes several degrees: nitro-glycerine not so pronounced in this direction. These agents have been recommended in whooping-cough and spasmodic croup, but I have no clinical experience to sustain the suggestion. *Neuralgia of the 5th pair of nerves*, and *migraine* accomponied by *facial pallor*. But that form of neuralgia, marked by *flushing* of the face, is aggravated. Tetanus and hydrophobia are said to be benefitted.

"The nitrites are antidotal to strychnia, but clinical conditions arise, in which strychnia may be exhibited in combination with nitro-glycerine with marked benefit. Namely, in ischemic condition

of the blood vessels with feeble and engorged heart, the nitro-glycerine produces relaxation of the blood vessels, while the strychnia gives force and tone to the contraction of the heart muscle.

"In reflex vomiting, in some cases of gastralgia, their action is most efficient.

"Angina pectoris, both true and pseudo.

* * * "I would also suggest the use of Nitro-glycerine as an aid to overcome the *spasm of hour glass contraction of the womb*, especially if caused by the *improper administration of ergot.*

"In the weak heart of opium poisoning, Dr. A. T. Spencer attributes the recovery of the patient to the administration of nitro-glycerine. My own experience is meagre and vague and does not bear out Dr. Spencer, though in all fairness, I would state my confidence in its efficiency, especially given in conjunction with strychnia. In irregular muscular spasm present in renal and hepatic colic, I believe we have a potent remedy in nitro-glycerine, and in spasm of the same nature in the stomach and bowels, I know of no remedy so prompt and potent.

* * * "*No agent can be safely administered to sustain heart action and avert death from heart failure whose physiological action is known to be, first, depression of the medullary center, consequent threatened paralysis of respiration and markedly paralysis of the muscular system.* Impairing the oxygen carrying capacity of the red blood globules, still further affects nutrition of the general muscular system and of the heart itself. I would, therefore, earrnestly condemn their exhibition under such conditions. * * * "Finally, it must be remembered that the repeated and long continued use of these agents begets tolerance; that we find a great difference in the susceptibility of different subjects, and that sometimes there may occur sudden and alarming unconsciousness with marked pallor and feeble or absent pulse.

"Nitro-glycerine is the *one agent* which acts more promptly by the mouth than when given hypodermatically."

THE PHYSIOLOGICAL ACTION OF LACTOPHENIN.—Namirez (*La Belgique Méd.*) has investigated the physiological action of lactophenin, which has been recommended as a safe and sure hypnotic, by experimenting on dogs and rabbits. (1) One of the first results of administering the drug is some loss of consciousness, which even after moderate doses is followed by diminished sensation going on to complete anesthesia of the skin and mucous membranes, though the nerve trunks retain their irritability. This anesthetic action is most marked in the extremities, in the anterior half of the back, and in the territory supplied by the trigeminal nerve. At this stage the pupils are dilated, and there are muscular tremors, which increase when voluntary movements are executed. The reflexes are preserved with doses up to 1 gram per kilo. of body weight, but with larger doses are completely abolished, the last to go being the corneal reflex. There is considerable loss of motor power, and the tendency to sleep becomes irresistible. Finally, with still larger doses (2.50 grams per kilo.) death occurs in general convulsions, or from cardiac paralysis. (2) The respiratory rhythm is, as a rule, unaffected, but very characteristic is a remarkable increase in amplitude of the respiratory movements, which certainly follows moderate doses in dogs or rabbits. (3) With moderate doses (not more than 0.50 gram per kilo.) the cardiac systole is increased in force, the frequency remaining unaltered, and the blood pressure usually rises. (4) The temperature invariably falls. In common with all drugs of this class, toxic doses are required to reduce the normal temperature 1 degree C., though in man febrile temperatures are reduced by it promptly with doses forty or fifty times less powerful. (5) Lactophenin is but slightly toxic. Calculating from the quantities fatal to animals, the writer concludes that a dose of 138½ grains given by the mouth would be required to endanger the life of a man weighing 154 pounds, and since a dose ten times less is sufficient to produce marked hypnotic effect during the disease, it is evident that this substance will prove to be of great therapeutic value.—*British Med. Jour.—Med. Standard.*

Recent Medicaments.

Eucasol is the trade-name for eucalyptus-anytol.

Guacamphol is a synonym for guaiacolum camphoratum.

Kresosolvin is the awkward substitute name for one brand of creolin.

Igasol is a formalin derivative, introduced by Prof. Cervello, of Palermo, for inhalation in tuberculosis.

Ferratose is the name applied to an aromatic liquid preparation of ferratin, "the iron component of all food."

Acoin (Carter, *Lancet*) is a valuable local anesthetic, particularly in rendering painless the subconjunctival injection of sulphocyanate of mercury.

Sphagnol, a distillation product of corba (peat) consisting principally of benzol, anthracen, naphtha, phenol, creosol and cresylol (*Pharm. Centralhalle*), has been introduced as a substitute for balsam peru, tar, ichthyol, etc., and as analgesic and healing agent in burns.

Tuberculin-Soap.—Dr. P. G. Unna is said to employ a 5% tuberculin soap ointment for external application in tubercular affections. The soap is rubbed in carefully until the skin surface is dry, 4 or 5 applications sufficing; the soap, with its tuberculin content, penetrates the pores, and the effect of the applications is certain and specific.

Capitan (*La Medecine Moderne*) advises tetranitrate of erythrol and hexanitrate of mannitol as vasodilators, more permanent than nitrite of amyl and nitro-glycerin. The dose is about six milligrams, the delay after administration one hour, the duration of effect six hours. Hugh Walsham has reported favorably to the British Medical Association on the use of the first in interstitial nephritis, Raynaud's disease, etc.

The German Pharmacopeia (IV), 1900 issue, has been published in advance-proof form and made available for criticism and confirmation. Twenty-six additions are made to the previous list (how many of the old are dropped our informant does not disclose); among the additions we note the following new products: Lanolin (and a lanolin ointment), bismuth subgallate (or dermatol), bromoform, methyl-sulfonal, pyrazolonum phenyldimethilicum salicylicum (*i. e.* antipyrin salicylate), antidiphteritic serum and Koch's tuberculin.

Soson is a new albumin-fibrine nutrient, similar to *tropon;* while *plasmon* (originally known as *caseon*) is a new pure albumin product, which contains all the valuable constituents of milk. The *Pharm. Centralhalle* describes plasmon as yellowish, granular powder, odorless, and with a taste reminiscent of milk; on adding cold water to it a jelly-like mass is formed, and on the addition of hot water a milky (opaque) liquid. It can be added to soup, coffee, tea, cocoa, etc., without noticeably affecting the taste of these beverages.

Iodopyrin.—Dr. Junkers, of Erfurt, reports exhaustively on the therapeutics of iodopyrin (or iod-antipyrin) in the *Therap. Monatshefte*, Nov., 1899. The product contains 40 per cent. of iodine in intimate combination with antipyrine, occurs in colorless, glistening needles, almost insoluble in water, but nevertheless quickly absorbed in the system through the action of the gastric juice. The dose for adults is 15 grains, repeated every 3 or 4 hours; children from 1 to 10 years take 1½ to 7½ grains; patients are favorably affected by the drug, a more or less profuse perspiration ensues, the temperature is promptly lowered, the pulse rate is reduced, breathing becomes regular and fuller. Dr. Junkers' personal experience is detailed, and was exceptionally favorable in showing antipyretic, antirheumatic, antineuralgic and antiseptic value of the compound.

PRESCRIPTIONS.

For Soft Corns.—Paint every night.

℞ Jodi	gr. ij		10
Collodii flex.	ʒ iij	10	
Alcohol	ʒ j		3 50
Potassii iodidi	gr. ij		10

—*Pac. Rec. Med. and Surg.*

For Pertussis.

℞ Bromoformi	ʒ i		3 25
Tr. tolutani	ʒ ij		7 50
Syr. tolutani	℥ i	30	
Mucil. acaciae	ʒ iv	20	
Aq. menthae viridis	ad ℥ iv	150	

S. ʒj (5 ccm.) t. i. d., increasing to 6 or 8 doses daily.

—Scoville, *Medical News.*

For Pruritus of Scrotum.

℞ Hydrarg. chlor. corros.	gr. vij		50
Alcohol.			
Aq. chamomil.	āā ʒ vj	25	
Chloroformi	gtt. v	gtt. v	
Aq. camphorae	ad ℥ iij	100	

—Leistikoff (retranslated from *Journ. Am. Med. Ass'n*).

For Hemorrhoids.

℞ Pulv. gallae	ʒ j		3
Pulv. opii	ʒ ss		1 50
Vaselini	ad ℥ j	25	

S. Apply on pile pipe.

—Roberts, of Kansas City.

For Malignant Syphilis.

℞ Sodii chloridi	7
Sodii phosphatis	2
Aquae dest.	1000

S. Inject 350—450 cc. every 5 or 6 days, for 4 or 5 times.

—Hayem, quoted in *N. Y. Med. Journal.*

For Night Sweats.

℞ Ac. camphorici 1 to 2 gme.

S. Take dry on tongue one hour before bedtime. Wash down with water or milk.

—Coston, in *Therap. Gazette.*

For Gout.

℞ Lithii benzoatis	ʒ ijss	12
Sodii phosphatis	ʒ v	25
Tr. colchici sem.	ʒ ijss	12
Aq. cinnamomi	ad ℥ iv	200

S. Dessertspoonful (10 cc.) 2 or 3 times daily.

—Butler.

(Note.—In translating the total amount is increased and it is more convenient to advise the use of a large, new tea or dessertspoon holding respectively 5 and 10 cc.)

Book Notices.

International Clinics. Vol. 3, ninth series, October, 1899. J. B. Lippincott Co., Philadelphia.

This quarterly, which is now under the sole editorial charge of Dr. Judson Daland, is too well-known to require an introduction. The subdivision is slightly different from that hitherto in vogue, there being a department of Drugs and Remedial Agents, one of Treatment, the branches of practice then following as usual. Prof. Gärtner, of Berlin, contributes an article on Dairy Technics; Prof. Stintzing, of Jena, gives a mixed clinic; Grancher, of Paris, speaks of the treatment of tuberculosis; and many other distinguished foreigners are represented beside a number of Americans. The old tendency to report bizarre—and therefore comparatively worthless—cases, has almost entirely disappeared, and the *Clinics* assumes a growing value to the student of practical medicine and surgery.

Hand-book of Medical Gymnastics. By Anders Wide, M. D., Lecturer in Medical Gymnastics and Orthopedy in the Royal Carolean Medico-Surgical Institute, etc., Stockholm. New York, Funk & Wagnalls Co. 1899. (First Swedish edition, 1896.) 373 pages, including index and 93 illustrations. Net price, $3.00.

This book seems to be a thorough exposition of the principles of Swedish gymnastics and of the practical application of these principles to various diseases, cited in order with illustrative cases. The only adverse criticism that occurs to us is that the language and terminology rather remind one of "English as she is spoke." However, there are no glaring defects in construction and the translator has modestly kept his name a private matter. We congratulate the author and publisher from resisting the temptation, which has overcome some very worthy book-makers, of taking the subject as an excuse for an elaborate display of the female form. We predict for the work a double field of use-

fulness, as a model for physical culture in educational institutions, and as a handbook of orthopedic treatment for physicians.

Report on Yellow Fever. Printed for the U. S. Marine Hospital Service by the Government Printing Office. 1899.

The report is the result of the studies of Surgeon Eugene Wasdin and Passed Asst. Surgeon H. D. Geddings, and is, in the main, corroborative of the work of Sanarelli. The bacillus X of Gen. Sternberg is stated to have no causal relation to the disease, being frequently found in the intestinal contents, urine and bronchial secretion of man and animals, not affected with the disease. The direction to test the effects of a serum was not followed out, on account of the impossibility of finding a case uncomplicated with malaria after the issuance of the order. Hence, the work deals almost entirely with etiology, including many pathologic and bacteriologic details.

Annual Reports of Supervising Surgeon-General (Dr. Walter Wyman) of the U. S. Marine Hospital Service, 1897 and 1898.

Beside a large mass of statistics largely connected with the routine of the service, there is a great deal of valuable scientific matter dealing with yellow fever and the hygienic functions of the service, as well as many reports and medical articles by the members of the service, which lend to the reports the interest of society proceedings. It was the intention to include a historic review of the service, 1898 being the centennial of its inception, but this was postponed on account of the exigencies of more practical duties. We extend our congratulations to the Surgeon General and to his assistants, to whom he so generously awards their due credit. We received in 1890 an appointment to this service, but for purely personal reasons declined a commission. We shall, however, continue to cherish an admiration and respect for those of its officers whom we have known either personally or by official correspondence, and we consider it not out of place to point out to aspirants for public service some of the advantages which the Marine Hospital Service presents. Its surgeons are located principally in large cities, or at any rate where there are opportunities for medical observation. It is a service of medical men, one's superior officers being doctors. Its clientele consists not of men who may have gonorrhea, who may be wounded or possibly have some genuine medical disease, but of men actually sick or injured. As ministering to the merchant marine and in watching over the sanitation of the country as no other service can, the U. S. Marine Hospital Service fulfills a function as important as its connection to the United States Government through the Treasury Department is peculiar and unique. Here we have ready formed and disciplined, precisely the branch of public health for which so many journals are clamoring. Whether the peculiar connection of the Marine Hospital Service to the general government hampers in any way the action of its members, we do not know, nor do we purpose to discuss the advisability of adding to the cabinet an officer of health. But we do say, that if such an addition is popularly demanded, the demand should be executed by placing the Surgeon General of the U. S. Hospital Service as an ex officio member of the cabinet, and by thus rendering the service entirely independent of the Treasury Department, providing, of course, that such a change would meet with the approval of those most intimately concerned, namely the medical officers of the United States Government.

Gagoin (quoted in *Semaine Medicale*) recommends the intra-venous administration of diphtheritic antitoxin in severe cases.

Patton (*North-Western Lancet*) makes a paste of pumpkin seeds, 1 part to three of water and administers 250 c.c. every 3 to 4 hours for six doses, for tape-worm.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VIII. NEW YORK, JANUARY, 1900. No. 7.

Original Articles.

PORTRAITURE OF MEDICAL PRACTICE.

By Dr. ALBERT ABRAMS, San Francisco,

Author of "The Antiseptic Club," "Scattered Leaves from a Physician's Diary," etc.

TYPES OF THE PRESCRIBING PHYSICIAN.

A physician is known by the prescription he writes. A recipe faithfully portrays the sum total of medical learning with its practical application. Some satirist has tauntingly referred to the physician as one "who spends his life in writing death sentences in latin." Few of us can arrogate to ourselves so much erudition. Latinizing a prescription correctly is a monument to our predecessors. We, of to-day, are adepts in pharmaceutical and medicinal incompatibility. How few of us achieve in writing our prescription the Asclepiadic formula, *curare cito, tute et jucunde.*

There is altogether too much prescription writing, too much treatment. The dictum of Voltaire is yet apposite, "doctors are people who pour drugs, of which they know little, into a body, of which they know less." If "meddlesome midwifery is bad," then meddlesome therapy is equally offensive. No one has ever statistically calculated the harm done by indiscriminate medication. Plato says, that medicine "is an art which considers the constitution of the patient and has principles of reason and action in each case." We graciously lapse into the prevalent error of mistaking recovery for cure, and thus arrogate to ourselves certain rights which justly belong to the *vis medicatrix naturae.* It is related of a celebrated London physician, that being called in consultation in a case of acute articular rheumatism he detected a pericardial murmur, which the physician in attendance had overlooked. The latter expressed contrition for his carelessness, but the consultant assured him that "it was well he had not detected it, he might have treated it."

The commonest type of the prescribing physician is the polypharmacist. This type regards the prescription as his cabala. Beginning his receipe with an invocation to Jupiter, when the symbol of invocation should really be directed to the pharmacist imploring him not to substitute "something just as good," he indites a meaningless string of ingredients. The duello has been placed under the ban of public condemnation, yet if medical polemic were settled by an interchange of prescriptions medical disputants would no longer exist. As the list of ingredients increases, one may with certainty conclude that luck, not art, guides the success of the prescription. Polypharmacy has its origin in the medical college. Students may prove indifferent auditors to the interpretation of some recondite point in medicine or pathology, but should the lecturer in his discourse dictate a prescription, then and then only, is the student aroused to the occasion: hurriedly he seizes his pencil and inscribes in his note book the formula which will bring him reputation in his chosen profession. Nothing savors more thoroughly of a defective medical education, than this barbarous system of garnering a stock of ready-made and misfit formulae. Prescriptions should be extemporaneous and custom made. If a misfit prescription is all that a patient can obtain, he has no need for the physician,

the druggist will supply the demand. The polypharmacist does not commit the error of examining his patient. He is far too cautious, such a lapse would only prejudice him in writing his prescription. Here is a prototype of one of the so called "shotgun-prescriptions" given by a physician of large practice, for a cough:

Syrup. scillae comp.,
" senegae,
" glycyrrhizae,
" prun. virgin.,
" balsam tolu,
" morphiae,
" ipecac.,
" limoni,
Tinct. opii camph.,
" sanguinariae,
" cubebae,
Vin. antimon.,
Spir. aeth. nitros.,
Mel. āā ℥ ss
Pulv. chlor. potass.,
" mur. ammon.,
" carb. ammon.....āā ℥ i

M.S. A dessertspoonful every 3 hours.

Professional occupation neuroses continue to multiply; the cigarette roller, the weaver, the milk maid, the telegraph operator, all pay tribute to muscular insanity. The polypharmacist will soon be added to the list, and "prescription writers' cramps" is destined to be scheduled in our new nosology. Diagnosis is in many instances hampered by injudicious medication. As instances may be cited, antiluetic medication at the time of the equivocal initial lesion; antipyretic medication in infectious diseases, where the thermometric curve is of such material assistance in diagnosis; the effects of which not only interfere with diagnosis, but prevent a proper knowledge of the progress of the case. As we advance in medicine, we incline further and further toward therapeutic nihilism. Modern medicine is preventive not curative.

The polypharmacist is necessarily a symptomatic therapist. He engages in single combat with every symptom of disease, nothing escapes him. Sometimes he essays the therapeutic contest with his ready-made formula, but when he wishes to exercise inordinate skill, he takes up the individual symptoms, let us assume a patient with gastric catarrh, and erects a prescription accordingly. The prescription when analyzed contains something for flatulency, a purgative, a digester, a cholagogue, an alkali, a stimulant, a sedative, and, if he is charitably inclined at the time and the expenditure of ink and paper is no object, he adds a dash of an analgesic and antispasmodic and completes the whole with an agreeeable excipient. Perhaps he will suffer his diagnostic acumen to be questioned by an evanescent look at the tongue and palpation of the pulse. He has done his duty.

Sometime ago I was consultant in a case of carbon monoxide poisoning and what was not done to the patient would consume but very little time in the telling. The patient in question was purged, blistered, bled, electrized, "nitroglycerinized, strychnicized," exercised, and finally ostracized to another and better world. No time was lost in watching the physiologic action of the remedies employed. It was truly an instance of "lotions and potions, powders and pills, and nothing sure but the dollar bills." It recalled to my mind the patient who was cured of alcoholism by a prescription of opium, and who was later on cured of the opium habit by cocaine, and now the patient is in search of a remedy for the cocaine habit.

Mono is rapidly supplanting polypharmacy. Monopharmacy is the insignia of the educated physician. It enables him to anticipate the physiologic action of his drugs and the logical sequence, their therapeutic effects. If the case is one of angina pectoris and dilatation of the blood vessels with consequent lowering of the blood pressure is to be attained, he writes for amyl nitrite or nitroglycerin. If the nature of an affection supposed to be choreatic is to be ascertained he prescribes only arsenic. To determine whether a gout exists, colchicum is given. He rarely employs digitalis in association with other drugs, nor does he combine ergot with anything else when arterial

anemia is to be induced. He uses iodide of potash alone or at times in combination with mercury when he suspects a syphilitic condition, and in chlorosis he gives only iron. He knows that any intermittent fever which does not respond to quinine is not malaria, but in applying this test he is lavish with the drug, always carrying it to its physiologic effects and maintaining them for several days. In rheumatic affections he administers only salicylic acid; in myxedema, thyroids; in anchylostomiasis, thymol; in pernicious anemia, arsenic, and finally, when he gives tuberculin for diagnostic purposes, he only uses tuberculin.

The *scientific prescriber* is an extremist: he is the nihilist of the medical profession. His forte is pathology and diagnosis. He regards his client as an automaton. He will spend hours in the elicitation of symptoms and will then dismiss his patient without a thought of treatment. To him therapeutics is a *terra incognita.* He has made the diagnosis and with that the patient must content himself. The nationality of the scientific prescriber has been anticipated—he is a German. American physicians lead the world in therapeutics. Give me a German to diagnose my disease and the American will cure me. I knew a German physician, a man of extraordinary scientific attainments, who was summoned to a child suffering from intestinal colic. Two days were consumed in the examination of the patient. The secretions and excretions were analyzed, the blood examined, and the chest was thumped and auscultated, yet the patient got no better. No prescription was forthcoming as no diagnosis had been made. In desperation, the distracted mother called the unscientific prescriber who forthwith pronounced the case one of "bellyache," prescribed paregoric and the patient recovered. This instance invites no commentary on the scientific prescriber.

There is the "one prescription prescriber." He has one formula for every disease; it is his catholicon. I knew such an individual and he was moderately successful. In a burst of confidence he divulged the nature of his formula, which was prescribed as No. 962. It was a mighty array of purgatives. "What a patient wants," said my colleague, "is something to open the bowels and keep them relaxed, and if you don't accomplish that much with your prescription it isn't worth space in Hades." It was Broussais, I believe, who promulgated the theory that all diseases originate from the gastro-enteric tract, and when he died he left as a legacy a ponderous volume, containing all he had learned in the practice of medicine. On examination all the pages were blank with the exception of one and that contained the following lines: "To maintain your health, keep your head cool, your feet warm, and your bowels open." Our cloaca maxima must be drained; the best intestinal antiseptic is the purgative. Auto-intoxication as a theory may be abused, but as a fact it often abuses and it more often abuses than it is abused. Was it not the late Sir Andrew Clark who said, that if he were limited to the choice of one drug in the treatment of chlorosis, he would choose a purgative? and he could profitably have added without fear of contradiction that it is the banner drug in most diseases.

The *prescriber of new drugs* is dictated by one of three motives: 1. the desire to be modern; 2. unfamiliarity with recognized drugs; 3. the keen pursuit after specifie medication. The manufacturing chemist with true commercial instinct employs the physician as his agent for the distribution of his manufactured products. On the credulity of the physician, the chemist has unlimited confidence. What is new is not always good, nor what is good is not always new. Patients have become physiologic laboratories on whom experiments with new drugs are made. Every physician has no doubt had unpleasant experience with new drugs which have in many instances been launched on

the profession after animal experiments only. Pharmacodynamics is not the same in man as in animals. The production of quinine by synthesis has been unsuccessful, but the experiments have led to the discovery of many organic bodies, possessing analgesic, antiseptic and antipyretic powers. Who has not witnessed the baneful effects of these drugs? Lives have even been sacrificed to determine their clinical application. In this category of drugs, acetanilid stands preeminent, yet one and all are endowed with its toxicity.

Unfamiliarity with officinal preparations is largely responsible for this disorder of things. The advocate of rational therapeutics is justly entitled to his neophobia. We often read lists of the best books to be read. With the following drugs one possesses a formidable therapeutic arsenal: Amyl nitrite, arsenic, belladonna, cocaine, chloroform, colchicum, digitalis, ether, ergot, iodide of potash, ipecac, iron, jaborandi, opium, quinine, strychnine, and salicylic acid. Like the prestidigitateur, the skilled physician can produce marvelous feats with the preceding list of drugs. He learns to manipulate them in every conceivable way; and at the same time is not adverse to adding some new and approved preparation to his armamentarium. Opium, for instance, is a protean drug with its 17 or more alkaloids. It may be so manipulated as to subserve the purpose of an analgesic, hypnotic, diaphoretic, narcotic or antispasmodic. It may be employed as a stimulant or depressant of the heart and respiration. Observe the manifold physiologic actions of nux vomica, belladonna and arsenic.

> Those drugs thou hast and their action tried,
> Grapple them to thy soul with hooks of steel.

The final factor is the keen pursuit after specific medication. Specifics in medicine are few, and this status is destined to be permanent, unless the exception is demonstrated by experimental results with the antitoxins. The vis medicatrix naturae, natural therapeutics, is independent of art in the spontaneous cure of disease; and the logical tendency of a pathologic condition is always toward a physiologic ending. Phthisis and aseptic surgery prove the futile attempts at specific medication. In the great cycle of evolution, connecting the supernaturalism of antiquity with the scientism of the 19th century, the curability of phthisis by drugs remains the same. During all this time specific after specific has been vaunted and in turn discarded, until now standing upon the threshold of modern medicine, nought is revealed to the observer but one dominant fact, and thati s, prophylactic medicine is the medicine of the future. The cure of phthisis is now attained by increasing the resistance potential of the organism, supplying those factors which by their disregard have superinduced the disease. That invincible trinity, pure air, equable temperature and sunshine, coupled with nutritious food and a hygienic environment are the factors to be invoked, not drugs. The late Lawson Tait was a great controversialist but he was a reasonable one. It was he who taught that the retardation or prevention of septic decomposition was best achieved not by the use of antiseptics, but by mere cleanliness. After all, germs are but the specific constituents of dirt, the complete removal of which can only be attained by cleanliness, although a modified, though incomplete, procedure is known as antisepsis.

The heroic prescriber unjustly merits his name, insomuch as the hero of the therapeutic contest is unquestionably the patient.

"How much is a dose of croton oil?" inquired a professor of a member of his class. "A teaspoonful," was the answer. No comment was made by the teacher, and the student soon realized that he had made a mistake. After a quarter of an hour he said: "Professor, I want to change my answer to that question." "It's too late," responded the professor looking at his watch, "Your patient has been dead fourteen minutes."

Similar results often happen to the advocate of heroic medication.

To disregard a patient while treating his disease is a fatal mistake. I have known of several instances of death to have followed the cumulative action of drugs. We ought never to forget that drugs are poisons as well as medicaments and that their employment must always be accompanied by inordinate circumspection, for we can never recognize the idiosyncratic individual by his physiognomy. The tenets of homeopathy are negatively admirable. They teach drug attenuation and the implied subsequent nihilistic therapy. Your patient may die from homeopathic medication, but you can never kill him.

The vile prescriber is no repecter of mankind. He is a pessimist by conviction and exorcises disease by his nauseous concoctions. Hisguide is frequently empiricism, for it has taught him, that unless some patients get a "nasty medicine," they believe themselves to be fearfully neglected. Usually the patient is so concerned about the medicine, that he forgets his disease and hastens to get well. The prototype of this class of patients is the hysterical woman.

More often the vile prescriber has only a theoretic knowledge of drugs and it is mere ignorance of their palability that leads him in error. A physician should never prescribe a drug unless he has first tasted it. Physicians never take their own medicine, but they ought to. The success achieved by the maufacturing chemist is due to his really elegant and palatable preparations. Pharmacy is an art and must be learned.

The prescriber of placebos fulfills an important duty in therapeutics. He conciliates the patient while nature is curing the disease. He lightens the burden of nature by not usurping her rights. He must be a man of infinite wisdom with a vast fund of humor.

The influence of the mind on the body is wonderful. The story is related of a patient who, receiving a prescription from his physician, was told "that it would do him good." At the patient's next visit he was asked "if he took his medicine regularly.' The patient replied "that it was unnecessary," he had swallowed the prescription according to directions and "it had done him a power of good." I had occasion to prescribe a purgative and hypnotic for a patient. He was an inveterate sufferer from insomnia, and at the time no sleep had been obtained for three nights. At my next visit, I was informed that "he had slept splendidly," a fact which was rather surprising when I discovered that he had, by mistake, taken the purgative as a hypnotic. I did not disabuse his mind, especially as he continued to obtain the same effect from the supposed sleeping medicine after each administration. A well-known chloroformist had occasion to give ether to an hysterical girl, who was about to have two scalp tumors removed. He found that the ether bottle was empty and while waiting for a new supply to be brought, he instructed the patient how to take deep breaths. After a few deep inspirations she cried: "I am going off," and became unconscious. Both tumors were painlessly removed in this state. It was subsequently learned, that the girl had taken ether once before and the association of ideas merely recalled the former effects of the ether.

The proprietorial prescriber remains to be portrayed. He it is, who is the puppet of the manufacturing chemist. His credulity is invoiced as a part of the chemist's stock in trade. The use of proprietary remedies is exclusivism, and the latter is an attribute of charlatanism. The bewildered physician is told: to use Brown's emulsion of cod liver oil because the molecules of oil were in a state of finer division by one-hundreth of an inch, than was the preparation of Jones; that the bad taste of Green's elixir of quinine remained in the mouth for two minutes less time, than any other elixir of the same preparation; Smith gave an expectorating cup with his cough medicine, while Brown gave a certificate entitling the consumer of the drug to a coffin in case of death; Johnson's anti-rheumatic was peerless because it was manufactured by a joint stock company.

Let us retreat from this drug delirium which threatens to annihilate rational therapeutics. Let mono-, not poly-pharmacy be the standand of our prescription writing. Let us prove loyal to the old, yet not insensible to, but wisely discriminative in the employment of new drugs.

A STUDY OF THE VALUE OF ALCOHOL.

By J. M. French, M.D., Milford, Mass.

The question as to the food value of alcohol has been almost as much discussed as its stimulant action, and with scarcely more of agreement as to the result. The recent experiments of Prof. Atwater at the Wesleyan University, while they cannot be considered as furnishing a final settlement of the vexed question, do yet without doubt constitute a most valuable contribution to that end, and may at the present moment be regarded as the latest word of science concerning this subject. What the next word will be, who can tell?

In view of the wide-spread interest which has been manifested, not only in these experiments, but in the whole subject on which they are intended to throw light, a brief review of the main features of the discussion may be of interest.

As the first step to this end, it is necessary to settle upon a satisfactory definition of the term "food."

The Standard Dictionary defines a food as "any substance which, being taken into the body of an animal or plant, serves, through organic action, to build normal structure or supply waste of tissue." This definition is manifestly defective, since it applies to proteid material or tissue foods only, and excludes the almost equally important fats and starches, or so-called fuel foods.

Webster defines food as "that which goes to support life, by being received within and assimilated by the organism of an animal or plant." This is somewhat broader, and may be accepted as substantially correct. It lacks in definiteness, however, in that it makes no distinction between the two great classes of food, and so does not help to solve the main question, whether or not alcohol goes to sustain life.

If we were to consider all the various definitions which have been given, I doubt if we should find any which is simpler, more definite, or more easily tested, than that given by Edward Smith in his classic work on Foods. "As a general definition," he says, "it may be stated that a food is a substance which, when introduced into the body, supplies material which renews some structure or maintains some vital process."

This is a concise summing up of the essential properties which constitute a food. When introduced into the body, (1) It must supply material. If the whole of the ingested material is given off unchanged, no matter what action it may have upon the animal economy, it is not a food. In fact, as the author goes on to state, a food is distinguished from a medicine, by the fact that the latter modifies some vital action, but does not supply the material which sustains such action. Whether this is a distinction which can be definitely made in all cases or not, the principle is undoubtedly correct. The question at issue really is, whether alcohol is a food or a medicine, or partly one and partly the other. The author continues, "If it can be shown that alcohol, whilst in the system, is not transformed, but leaves the body as it entered it, its action is not that of food. Hence, the proof is dilligently sought as to the transformation or non-transformation of alcohol in the system." It was taught by Liebig, in his celebrated classification of foods, and for a long time generally accepted, that alcohol is totally consumed in the system, giving rise to vital energy. About the year 1860, however, "Mm. Lallemand, Duroy and Perrin instituted special experiments from which they showed that after alcohol had been administered, it passed off through every outlet of the body for many hours, giving the reaction of alcohol or of aldehyde; and hence they thought they had proved that it did not suffer any chemical changes in the system."

Edward Smith "repeated and enlarged these experiments, and found alcohol in the transpiration of the skin and the lungs,

and in the urine and the faeces, for more than twenty-four hours after taking two ounces of brandy and water; all of which supported the conclusions of M. Lallemand. But it had not yet been proved, by actual collection of the whole of the alcohol, that none had been transformed." This point he regards it as practically impossible to prove. "To ask for so much proof," he says, "is scarcely reasonable; and may I not add, from the analogy of other foods, that any large proportion passing off unchanged, is a strong argument that all is unchanged, and particularly so, when, after so long a period as nearly two days, some remains in the body unchanged."

We pass on to the remaining characteristics of food. The material supplied must serve one of two purposes; namely, either—

(2) To renew some structure, or

(3) To maintain some vital process.

Here we have a clear statement of the two great uses of food, corresponding to the two classes, tissue foods and fuel foods, or nitrogenized and non-nitrogenized food substances.

Nowhere is the claim any longer seriously made that alcohol is a tissue food. All authorities agree, that the only thing it can do, is to undergo oxidation in the system, and be transformed into heat or some form of force, like other carbo-hydrates. It only remains to consider, therefore, whether alcohol, when taken into the system, furnishes material to maintain the bodily heat or to aid in carrying on any of the vital processes.

It is here that the experiments of Prof. Atwater are of value, as supplementing if not superceding those of Lallemand, Duroy and Perrin, Edward Smith and others. Concerning these experiments and the conclusions based upon them, the substance of what I shall present is obtained from a published account authorized by Prof. Atwater.

The subject of his experiment was placed in a respiration calorimiter, which is in effect a small chamber, seven feet long, four feet wide, and six and one-half feet high, having metal walls, and furnished with a folding bed, chair, and table. In those experiments which involve muscular work, a stationary bicycle is also provided. There are arrangements for ventilating, lighting, and regulating the temperature of the chamber, so that the man may live in comparative comfort, day and night, during the entire experiment, which lasts from four to twelve days. All his food and drink, and all his excretions, are accurately measured, weighed and analyzed.

Even the air he breathes is measured and analysed with the greatest accuracy. In this way, the kinds and amounts of the different chemical compounds which enter and leave the body are accurately determined. Not only this, but the potential energy or latent force of the food taken, and the energy given off in the form of heat and muscular work are also measured. In these experiments it has been demonstrated that the human body, like a steam engine, an electrical dynamo, or any other machine, obeys the laws of the conservation of energy. By giving the men who were the subjects of experiments different kinds and quantities of food on the one hand, and by varying their activity from absolute rest to hard mental or muscular labor on the other, it was possible to learn just how the body uses its food, what materials are needed for its support, and how different foods compare in nutritive value.

The special object of these experiments was to study the nutritive value of alcohol. For this purpose pure alcohol was administered with coffee or water. Along with this there was an ordinary diet of bread, meat, butter, sugar and the like. The daily amount taken was two and one-half ounces of absolute alcohol, or as much as would be contained in three average glasses of whisky. This is divided into six doses, and given three with meals and three between meals. For each test two

experiments were made: one with ordinary food, just sufficient to meet the wants of the body. In the other, part of the sugar, starch and fat of the food, ingredients which supply the body with fuel for warmth and work, was omitted, enough to be chemically equivalent to the two and one-half ounces of alcohol which were given in their place. In those experiments in which the man did no work, this amount of alcohol made about one-fifth of the total fuel material of the food. In the experiments with hard muscular work, in which more food was used, the alcohol furnished about one-seventh of the food supply.

In summing up these experiments, the author states that three important results were observed.

"First, extremely little alcohol was given off from the body unconsumed. Indeed, it was oxidized (*i.e.*, burned,) as completely as were the bread, meat, and other forms of food taken.

"Secondly; in the oxidation all of the potential energy of the alcohol was transformed into heat and external muscular power. That is, the body made the same use of the energy of alcohol, as it did of that of sugar, starch, or other forms of food.

"Thirdly; the alcohol protects the body material from consumption, just as effectively as the corresponding amounts of sugar and starch. That is to say, whether the body was at rest or at work, it held its own just as well with one as with the other."

If these results are to be accepted as final, then the question must be regarded as settled, to this extent at least, that alcohol is just as really a food as is sugar, starch, or fat, or any other carbo-hydrate.

It must be noted, however, that the first result announced above is in direct opposition to that obtained by Mm. Lallemand, Duroy and Perrin, and corrobated by Edward Smith and many other experimenters: for these all agreed that after the administration of alcohol, it passed off unchanged through every outlet of the body for many hours; and though they were unable to recover the entire amount ingested, yet they did recover by far the largest part, while some was found to be still unchanged in the tissues; and hence they thought that they had proved that it did not suffer any chemical change in the system; or at least, that if any were so changed, the quantity was very small. On the contrary, Prof. Atwater reports that "extremely little alcohol was given off from the body unconsumed." These opposite results need to be explained and harmonized, or else further experiments are needed to determine which is right. So long as different experimenters, equally honest and able, obtain opposite results, there can be no settlement of the question.

The second result obtained, that the body made the same use of the energy of alcohol as that of sugar, starch, and other forms of fuel food, is seemingly opposed to the facts of common observation as to the physiological action of alcohol. It can only be harmonized with these on the ground that the quantity used in these experiments was so small as not to produce the usual physiological effects.

The third conclusion, that alcohol protects the body from consumption equally with fats, starches and sugars, is also in opposition to the results obtained by other recent experimenters. In 1892, Miura, of Germany, in a series of elaborate experiments, obtained contrary results. He first brought himself into a condition of physiological equilibrium, by taking just enough of a mixed diet to enable him to preserve a definite weight. He then omitted a certain amount of carbo-hydrates, and substituted an equivalent quantity of alcohol. It did not, however, afford the anticipated protection, for there was a distinct loss of tissue from the system, showing that the alcohol did not protect the body material from consumption. He then resumed his former diet until a condition of equilibrium was re-established when he again omittted the same amount of carbo-hydrate material as before, but without substituting any

alcohol in its place. During this period it was found that there was less tissue loss from the body than when the alcohol was substituted; thus seeming to prove conclusively that instead of protecting the body from consumption, the waste of tissues was directly increased by it.

Thus, the results obtained by these two experimenters are directly contradictory, and show conclusively that the last word of science has not yet been spoken. Nevertheless, it is perhaps safe to accept the main contention, namely, that alcohol, to a certain extent, does furnish material for the maintenance of the vital functions, and is, to that extent, a food.

It remains to consider what kind of a food it is; what is its comparative food value. Is it a complete food, a perfect food, a food capable of sustaining life of itself? Does it serve any purpose as a food which is not better served by other substances? Is it a safe food, a harmless food, not more likely than other food substances to produce deleterions results? And lastly, is it an economical food, producing results which are commensurate with the cost?

The answer to the first question is not difficult. Indeed, it has already been given. Its chemical composition forbids the supposition. Alcohol contains no nitrogen, and hence cannot furnish tissue material. It is not a complete food. It cannot sustain life of itself.

As to the second item, the claim is made that alcohol requires no digestion, but is in a form ready for immediate absorption and oxidation; and that hence it is of value in certain critical cases, where ordinary nourishment cannot be taken. It is said that alcohol does differ from other forms of food in this respect, that its energy cannot be stored up in the body, but is utilized at once by immediate oxidation. This point can best be considered in connection with the next question, as to the safety of alcohol. And here we find by a consideration of the physiological action of alcohol, that one of its greatest dangers is in a food sense, consisting in the fact that its affinity for oxygen is so great that its oxidation cannot be delayed. To follow out the comparison of food with fuel—and if it be objected that the comparison is not in all points an allowable one, we answer that it is one which is emphasized by Prof. Atwater and other advocates of the food value of alcohol—we note that, while shavings, which ignite readily and burn rapidly, are useful as kindlings, yet they are of no value as a steady fuel. In fact, for domestic purposes, the value of any fuel material is almost in inverse proportion to the rapidity with which it burns out. To be valuable it must be capable of being stored up, as in a stove or furnace, and its oxidation regulated by a properly arranged system of drafts and dampers, so that its energy—heat—can be produced as it is needed. For this purpose oak wood is more valuable than pine, and hard coal than either. Now alcohol, when put into the human system, does not furnish such fuel. It is neither coal nor good hard wood. Rather it is like a pile of shavings, which, when ignited, flashes up quickly—a bright flame and a quick heat, but no staying qualities. Or more appropriately still, it is like a horn of powder, which, when thrown into the fire is instantly exploded (oxidized) —a flash, a tremendous explosion, and much smoke. The comparison of alcohol with gunpowder is very close in this instance. When put into the body, alcohol explodes at once—*i. e.*, it dilates the capillaries, sends the blood to the surface, and thus increases the radiation of heat, so that more heat is lost by radiation than is produced by oxidation. This is proved by the well-known fact that the temperature is lowered by any considerable dose of alcohol; and also by the experience of arctic explorers, which has shown conclusively that even small doses of alcohol lessen a man's power to resist cold and endure exposure.

Furthermore, Dr. August Smith (Die

Alcoholfrage, p. 12, *et. seq.*) has shown that the high degree of affinity of alcohol for oxygen and consequent rapid oxidation, together with its extreme diffusibility, in the first place, calls for a greater amount of oxygen than can be supplied by ordinary respiration; and secondly, that it causes the resulting carbon dioxide, the ashes of combustion, to accumulate more rapidly than it can be removed, and thus brings about a slow poisoning of the tissues, with cell-degeneration from contact with alcohol.

Regarding the economic value of alcohol as a food, this is mainly claimed of wine and beer. Sweet wines contain a certain proportion of sugar, varying from two to thirty per cent. But as Dr. John Madden well expresses it: "No one will ever buy a bottle of the sweetest wine for its food value, as long as bread may be had for five cents a loaf, and sugar for six cents a pound."

It is, however, mainly of beer and the differeut forms of malt liquor that this contention is held. It is said that these are rich in malt and "extractives." These, however, are all contained in larger proportion in good bread, which is, moreover, very much cheaper. Strumpell estimates that in Germany, the cost of beer is about eight times as much as would be asked for an amount of bread containing an equal amount of nutrition, and that the difference is still greater in comparison with potatoes, peas, beans and other vegetables. Dr. Madden adds that in America bread can be bought as cheaply as in Germany, but beer costs the American consumer probably twice as much. It is, therefore, evident that no laboring man, especially no American laboring man, can afford, from an economic point of view, to use beer as a food.

There can scarcely be a better summing up of the conclusions of science with reference to the whole matter of the food value of alcohol, than is found in the following quotations. Let it be remembered that they are not the words of cranks, fanatics, or even temperance advocates, but of men of high repute in the scientific world, than whom few can be found whose opinions carry greater weight.

The first is from Voit, of Germany:

"Since alcohol, when taken in considerable amount, causes disturbances in the processes of the animal economy, we cannot introduce it in quantities sufficient for nourishment, as we do other nutriments; and in the amounts which we take without injury, its importance as a nutriment is too small to be considered."

The last is from H. C. Wood, of Philadelphia:

"For a person in health, alcohol must be considered as one of the most wasteful, uncertain, and often deleterious, of known substances which are considered food."

*NEW APPLICATIONS OF THE UNDULATORY CURRENT IN GYNECOLOGY.**

By Dr. Geo. Apostoli, of Paris, France.

The undulatory current, whose physical and physiological properties were discovered by Prof. d'Arsonval, has the double advantage of the effects of the continuous and the interrupted current with a more regular and less abrupt (sinusoid) curve than the faradic.

The absence of reversal of polarity allows the combined effect of an oscillatory and an electrolytic current.

Since the original use of the current by the author in 1896 he has applied it in a large number of cases—4,232 times in 308 gynecologic cases up to July 1, 1899.

The general results in gynecology are the following:

1. Its dominant characteristic is an analgesic action which causes the diminution and often the disappearance of painful phenomena. It is especially valuable in intermenstrual pains or dysmenorrhea,

* Abstract, contributed by author, of paper read before the Paris Academy of Medicine, Oct. 15, 1899.

without being able to supplant entirely either the faradic or static current.

2. Without marked influence upon leucorrhea of infectious origin, it is satisfactory against congestive circulatory troubles attendant on the puerperal state and it diminishes certain recent and often rebellious leucorrheas.

3. Without generally exercising against hemorrhages an action as rapidly efficient as that of the continuous current of high intensity, applied through a non-oxidizable platinum electrode, it is often available against hemorrhages connected with congestive metritis or an arrest of involution.

4. Acting similarly to and often better than abdominal massage, it is of advantage against certain rebellious constipated states and amenorrheas that prove refractory to the galvanocautery.

5. Without direct trophic action against the evolution of fibromata, it is inferior to the galvanocautery in the cure of benign tumors, but it can cause the disappearance of certain congestive and painful conditions due to their growth.

6. Powerless to correct prolapse and displacements, it can, nevertheless, render valuable service by diminishing pelvic congestion and increasing muscular contractility.

7. Especially efficacious in non-suppurative, congestive and exudative circumuterine lesions, by the combination of its analgesic and stimulant action, it aids the resorption of exudates and constitutes one of the best conservative applications.

From his large experience the author affirms the absolute safety and universal tolerance of the undulatory current and emphasizes its value in gynecology as (1) analgesic and (2) resolvent. Both symptomatically and anatomically, its resolvent action is more energetic if the electrode is placed within the uterus, than when placed within the vagina.

Chewing Gum Taken Seriously.—Leube claims to have caused resorption of ascites and hydrothorax by salivation produced by chewing gum.—*News.*

ARGONIN: ITS USE IN ACUTE URETHRITIS.

By T. A. Hopkins, M.D.

A glance through the medical journals of to-day would convince the most skeptical that the urethra is receiving almost more than its share of attention from medical writers, and it would seem that the therapy of this tract must have reached a high degree of exactness; but exactness is not a characteristic of work generally done in this department, and until there is a degree of certainty and celerity in the treatment of urethral diseases, no apology for a further paper on the subject is necessary.

My purpose in writing is not to advance distinctly new theories, nor is it to exploit essentially new procedures, but rather to add my experience to that already on record and invite discussion of means and methods already generally familiar.

It is now something better than twenty years since Neisser first demonstrated the germ of specific urethritis. His discovery was heralded as a long step toward positive and speedy treatment of the disease. Years have passed and although the gonococcus has gained recognition the world over, and almost every remedy in the Pharmacopeia has been lauded as *the* sure cure, clinical experience has demonstrated the fact that we are reaching *the* desired end in a most painfully slow manner. It is a very simple thing to kill a gonococcus in a test tube, but it is quite another matter to hunt and slay hin in his lair. In therapy the desideratum is some remedy which will accomplish the destruction of the gonococcus with certainty and at the same time limit and allay urethral inflammation. To this end the profession has more to show in the way of results from the work of the last five or six years than from all the years before. Janet established the right of potassium permanganate to a prominent place among antigonorrheics. Valentine systematized and devloped the idea and made it a

greater success than had been even hoped for, but beyond this, a new impulse was given to original research along this line. It was through this that the profession was awakened to a real appreciation of the disease and to scientific methods in handling it, the dormant originality of many bright minds was awakened and as a result the whole technique of urethral work has become revolutionized. An additional result, and the most important in my opinion, was the subsequent production of new remedies. The laboratories of the world, seeing the need, set about meeting it and as a result we have several new products, any one of which is superior to any generally used ten years ago.

The literature on the abortion of gonorrhea has always interested me, and I have allowed little that has been written to escape me. My experience in following out most of the plans advanced has resulted in lamentable failure. It seemed, no matter how carefully the plans were followed, that results were absolutely uncertain, success would come only often enough to stimulate me to continued effort, but I came to look with suspicion upon claims of having aborted the disease in any greatly continued series of cases. Though the means at hand now give us better results than formerly and possible abortive treatment is an established fact, I still believe that many of the reports, and especially those where posterior involvement is a factor, must be based upon false premises from the start. No statistics concerning gonorrhea are worthy of consideration which are not based on a diagnosis made with the aid of the microscope. The microscope makes the diagnosis and governs the treatment, the absence of microscopic examination and repeated microscopic examinations discredits any statistics. A knowledge of the simplest and most rudimentary elements of microscopy is all that is needed, and he who fails to exercise it does justice neither to himself nor to his patient, and in reporting his success he perpetrates a wrong upon the profession.

In my search for the abortive treatment, silver nitrate, potassium permanganate, ichthyol, and later the newer silver salts have each in its turn held a prominent place in my routine treatment. Each is valuable, but it is in one of the last, argonin, that I found a vastly superior remedy.

Practical experience had prejudiced me in favor of silver in urethral work, and I have expected a silver salt to be the desideratnm. For this reason I have followed the newer products with interest and have religiously given each an opportunity to do for me what it was claimed to do in the hands of others. The first verbal reports on argonin discouraged me and I delayed taking it up until a year past. It is always well to be conservative, but in this instance it might have been better for my patients had I been less so.

Argonin is already a familiar product to medical men. It is a fine white powder of neutral reaction, obtained by adding silver nitrate to a solution of sodium compound of caseine, from which it is precipitated with alcohol. Compared with silver nitrate, it contains silver in the proportion of 15 to 1. By way of superiority over silver nitrate and the other salts it possesses the advantage of being absolutely non-irritant, except in very rare cases, where it is but very slightly irritating, yet fully as active as an antigonorrheic. In its use complications are rare. By way of disadvantages but one can be urged against it, and that is the necessity of frequently making new solutions. With age the solutions become worthless, even though kept in amber bottles, and no others can be used; fresh solutions are necessary every second or third day.

In treating anterior urethritis with argonin the first consideration is the diagnosis. If gonococci are not present stick to your astringent injection, but when

they are in evidence a plan similar to that of Juddassohn will be efficacious. My own practice is as follows: The patient is given little internal treatment, a laxative if indicated and a mild alkaline diuretic. For topical use he is supplied with a 2 per cent. solution of argonin and a Goodyear No. 23 syringe, which is a glass urethral syringe with a soft rubber tip. He is instructed to use the solution two or three times daily in connection with the office treatment. His injection he uses after urinating, and he uses enough solution to fill the urethra to a point entirely behind the inflamed area; this he retains in the urethra five minutes. He is also supplied with clean cover-glasses and instructed in the technique of securing good specimens of the discharge for microscopical examination. These specimens he secures in the morning, before urinating or the use of the injection. He is required to visit the office at least once daily and at that time submits the cover-glass specimen of morning's discharge, which is stained and examined each morning while the patient waits treatment.

At the office, after making the double glass urine test, I wash the anterior urethra thoroughly with a solution of hydrogen dioxide, after which I inject argonin much as I have instructed the patient to do, but using a strength varying from 6 per cent. to 10 per cent., regulating this by the stubbornness of the attack as indicated by the microscope from day to day.

The treatment is continued for some days after gonococci have disappeared from the secretion, the frequency of injection being diminished. Occasionally cases will be found where a discharge persists, in which the specific germ cannot be found. In such cases I employ an astringent injection alternately with argonin, or even to its exclusion. Response to this method is usually very prompt.

It is not my purpose at this time to consider posterior urethritis. Could we feel sure that the cases of anterior urethritis were cured we would have little reason to concern ourselves over any other variety, and I am convinced that they can be cured as often as we can control the patient. The patient is the worst obstacle to the ideal method of treatment. If he is getting along nicely and improving rapidly, he fails to appreciate the situation. He will take a bicycle or horseback ride, or will drink and upset our plans and spoil our statistics by doing so. In fact, the list of cases in which I have given argonin a fair trial is considerably abbreviated by the impossibility of controlling many patients. No matter what method of treatment is employed it is necessary to cut off all alcoholic drinks, to insist on continence and on a good judgment and moderation in diet and exercise.

Since the first of the year I have treated twelve cases of acute anterior urethritis of an unquestionable specific nature with argonin, and in each case the recovery was prompt and without complication. I have also had nearly a like number of cases in which I have endeavored to pursue the same plan and would have succeeded but for the patient. In these cases epididymitis, prostatitis and posterior involvement were features, but they can in no sense be attributed to the treatment, for in each instance I located the real cause before I considered the treatment blameless.

In the twelve cases the treatment was almost identical with that I have outlined above, and because there was so little variation I will submit the following summary of results, which will tell the story quite as well as would taking each case up in detail.

Of the twelve, six came to within a week of the beginning of the trouble, two coming to the office on the first day. The others had been afflicted for from one to three weeks. Five confessed to previous attacks of gonorrhea, but the nature of the present attack being distinctly acute, and an anterior affection precluded the possibility of any connection between it and the past.

The important point is the disappearance of gonococci and an end of all treatment. In one case no gonococci were found after the second day's treatment. In two cases no gonococci were found after the fourth day. In four cases the gonococci disappeared after the seventh day, in three, after the 9th day, and in the last two they persisted until the twelfth and fifteenth day respectively.

In each case treatment was continued with argonin, or argonin and an astringent injection, until the urethra recovered its normal tone. In no case was the continuation of treatment necessary beyond three weeks—as a rule a week or ten days after the disappearance of the gonococci seemed to effect an entire cure.

Regard for the general welfare prompted me to keep the patients longer under observation, and in no instance has there been a return of the trouble.

These are results which I have been unable to secure with other treatment and, considering the fact that there was an absolute absence of irritation from the treatment in most cases (and in all it was inconsequential), it is one that I shall use farther. In so far as the control of pain already existing is concerned, no complaints were made after the third day with one exception, and that was in a case where I found an extremely hypersensitive urethra. That it was cured without complications is a matter of wonder to me.

Though my list of cases is a short one, and I appreciate that it is hardly long enough to establish a remedy, still, taken in connection with the work reported by others, it is one that has convinced me of the merits of argonin. Allowing for the usefulness of hydrogen dioxide as an antiseptic, we still have plenty for the antigonorrheic to do, and in this capacity argonin seems an entire success.

Century Building, St. Louis, Mo.

Heroin in Cough.—Herwirsch (*Therapeutic Gazette*, Nov. 15, 1899) advises the use of heroin in acute and chronic bronchitis and the cough of phthisis. The dose is ½ to ⅙ grain three times a day.

Formalin.—Urotropin.—That formaldehyde, formalin, and their derivatives are destined to play a somewhat important role in the infectious diseases, is probably true, as there is no other disinfectant that has their penetrating power. A recent writer extols the efficacy of inhalations of formaldehyde in catarrhal diseases of the upper ear passages. He claims that in all cases in which the inflammation of the mucous membrane is due to pathogenic organisms that they are immediately sterilized and the healing process is thus greatly facilitated.

Its use as a disinfectant in surgery has very much diminished within the past year; the enthusiasm with which it was first taken up has distinctly waned.

There is one field, namely, that of genito urinary surgery in which the drug has surpassed all expectations. It is believed that urotropin disinfects the urinary tract by being eliminated as formaldehyde. This proves its disinfectant qualities and shows what a brilliant future may lie before the drug if it can be furnished by chemists in a more manageable form than we now have it, and one which will prove less destructive of tissues.—*Medical Review*, Jan. 13, 1900.

Pneumonia Serum.—Eyre and Washbourne, *British Medical Journal*, have made some significant observations on pneumonia serum that may explain various inconsistencies in serotherapy. Using Pane's serum, they found it antagonistic to four out of five "strains" of pneumococci but not to the fifth. Neither morphologic nor pathogenic differences could be noted in the various "strains."

Mercury in Milk.—The elimination of mercury in milk can not be relied upon as a method of therapeusis. Seven nursing women, taking large quantities, yielded milk free from the drug.—*La Pediatria*, quoted in *Journ. Am. M. A.*

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR,
BUFFALO, N. Y.

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Editorial.

NEW YEAR'S GREETING.

It may have appeared somewhat discourteous that, in assuming editorial charge of the AMERICAN THERAPIST, we uttered no word of greeting to our readers. It might be considered unprecedented that very little was said as to how clean the new broom would sweep. As a matter of fact, we kept silence because there seemed to be nothing to say that was worth saying; many of the readers of the AMERICAN THERAPIST are personal friends, and all would naturally assume that the new editor had good intentions, which are about the only subject for discussion in initial editorials.

With the beginning of the New Year it is possible to speak more intelligently as to the policy of the AMERICAN THERAPIST.

In regard to one point we wish to speak with the utmost plainness. The AMERICAN THERAPIST, while not neglecting various imponderable therapeutic agents, deals mainly with the action of medicines. Naturally, great interest centers in new drugs, on which the profession is not yet fully informed. Articles dealing with such are often criticised as written with mercenary motives. While admitting the applicability of this criticism to many articles that appear in medical journals, we wish to state that neither the editorial nor the business management of the AMERICAN THERAPIST has any ulterior motives in connection with any page from title to finish.

The pages with Roman numerals are bought with the avowed purpose of furthering the business interests of advertisers. More than one applicant for these pages has been refused, and, while we cannot undertake to endorse without qualification every statement that may be made in the advertising pages, we believe that no medical journal maintains a higher standard in this respect, and that the business men who ask your support in this most ethical and most convenient way deserve your attention. Our sole object from inner title page to finish is to supply our readers with the most scientific and most practical information that we can find, whether in the way of original articles or abstracts, whether the subject is a new drug or an old one, whether the writer has an established reputation or is relying simply on the merits of diligent study and brains.

Beginning with the October, 1899, issue four pages of reading matter were added, and it is the intention to increase the size of the journal from time to time. To accomplish this we need more original reports of the quality established as standard; and we also need more subscribers. The two wants are interdependant.

Many new subscribers have been added to our list lately; the more we enter the easier will it become to secure valuable papers from leading teachers and authors —who naturally prefer large audiences.

We have promises of papers from men of national reputation, sufficient to insure the excellence of the original department for the entire year—of which more particular announcements may follow.

Meanwhile, each issue of this journal speaks for itself; we believe we succeed in our endeavor to crowd the pages full with interesting, instructive and valuable matter, from the perusal of which every reader is certain to gain some advantageous knowledge.

THE RATIONALE OF THE ADMINISTRATION OF DRUGS.

The closer the study that is given to the action of medicines, the less justification is found for the prevailing prejudice against them and the less need for apology for "drugging" patients. In preparing a lecture on physiology, we have tried in vain to obtain an illustration of a mechanic function of the body, to contrast with chemic functions. However mechanic a function, such as muscular movement, might appear on superficial consideration, thorough investigation always traced it to a chemic process. Thus, no *a priori* objection can hold again the use of chemicals to aid a weak function or oppose a perverted function.

Nearly all drugs may be brought under one of the following headings:

1. Those that replace some useful constituent of the body—iron, pepsin and other ferments, thyroid and suprarenal extracts, phosphorus compounds, fats, biliary salts, HCl, occasionally alkaline carbonates or the vegetable acids from which such carbonates may be formed, compounds of calcium and, in general, all mineral ingredients of the body. Sometimes even waste matters, like urea, may be administered for a purpose, since many of the excreta perform some useful function in departing from the system.

2. Those that combat bacteria or other parasites, including the various external and internal antiseptics, quinine and other anti-malarial drugs, thymol, pumpkin seeds and the whole category that are used against animal parasites of the intestines.

3. Those which act locally either to increase or decrease a local secretion or to influence the nutrition of a part. Emmenogogues, cholagogues, sialagogues, and their opposites, etc., are here included, as well as emollients, demulcents and substances that affect local blood supply, like menthol. Local astringents, the surgical dressings like powders that have some value aside from germ-killers, and drugs like bismuth and cerium used as internal dressings must be added to this category.

4. Eliminants, which remove poisonous matters from the body by any route, such as the liver, kidney, skin and lungs, but which are not used for their local effect on these organs.

5. Drugs, mostly alkaloids, whose action is transient, though physiologically brilliant, and which is most conspicuous by manifestations connected with the nervous and muscnlar systems.

In any particular case, it is necessary to weigh carefully the merits and demerits of each drug and the possible need which may exist for it. No drug is justified without the existence of a genuine demand for its services. Even the plea that a medicine merely supplies a normal part of the body is not sufficient, it must also be shown that a lack of this ingredient exists. For instance, iron is often administered simply on account of a pale complexion or without even this excuse. Except in the most extreme cases of anemia, it should never be given without a definite knowledge of the condition of the blood, nor should one preparation be persisted with, unless an occasional test is made to ascertain whether it is being assimilated. Ferments, animal extracts, etc., are often employed without the least demand for their administration. For instance, only an enormous practice or one composed of the most unique cases would justify the administration of pepsin and pancreatin to more than six or eight cases a year, and we have quite recently quoted a case in which thyroid extract was administered, with toxic effects to a nursing baby, in a case already suffering from an excess of activity on the part of this gland.

The use of alkaloids, however brilliant the results in the pupils, the tension of the pulse or results of stimulation or depression of other smooth muscles, or in altering the conductivity of sensory nerves or the receptivity of brain centers, deserves the most elaborate attention, since these chemicals are foreign to the body and

transient in their action. Many of them are of value simply as a matter of mercy or of saving strength, by their influence against pain. Others, skillfully used, are of the utmost value. Atropine is not only the fine instrument by which the ophthalmologist moves the involuntary muscles of the eye, but it is the thumb-screw by which we can relax or tone up the tension of the blood vessels and of other masses of involuntary muscles. To remove resistance from a weak heart, to brace the paralysed arteries in shock and collapse, to dilate a ureter or bile duct in a state of spasm, perhaps even to soften a resisting cervix uteri—all these and many similar actions are under the power of varying doses of atropine and its congeners. Apomorphine, not only foreign to the animal body but purely an artificial product, is life-saving at times. Some one or more of the active principles of digitalis and ergot are, in quite different ways, also life-savers.

It is not altogether correct to admit that the alkaloids, glucosides, etc., are foreign to the organism. Strychnine, for instance, properly used, reinforces nerve-discharges and may enable the body to regain muscular and secretory power and thus to bring about a state of health as permanent and as genuine as that produced by the most successful administration of iron, cod-liver oil or phosphate of lime. Some experiments of Bouchard and others have demonstrated that animal metabolism is not so different from vegetable as might be supposed. During sleep, convulsant and stimulant waste matters gradually accumulate; during waking hours, we are producing hypnotic compounds that enable us to sleep. In some cases, we know the nature of these bodies and can institute close comparisons with vegetable alkaloids. Much of our feeling of mental activity and physical well-being is due to xanthin and its congeners. By the addition of two or more methyl molecules, to xanthin, may be reproduced the active alkaloids of tea, coffee, chocolate and similar stimulant beverages. In suprarenal extract, are contained substances of the same general chemic composition as digitoxin and ergotin, and having very similar action on the unstriped muscle of blood vessels. The similarity of effect produced by natural abeyance of function of certain nerve centers during sleep and of minute doses of morphine or of full doses of milder hypnotics, is conspicuous. No less marked is the analogy between the results of excessive doses of morphine and of purely mechanic paralysis of centers by depressed bone or blood clot. The heightened nerve discharge produced by abnormal catabolic products—tetany—by the metabolic products of microscopic plants — tetanus — and by macroscopic plants—strychnine and brucine poisoning—are so simiar as to tax our powers of differential diagnosis.

We are approaching definite knowledge that will enable us to reinforce, to hold in check, to modify, to supply bodily function by the intelligent use of substances that we have hitherto used only empirically and with the apprehension that they were so foreign to the organism that we must apologize for their use.

PROPOSED INVESTIGATION OF THE NATIVE DRUG PLANTS OF THE UNITED STATES.

The Secretary of Agriculture, Hon. James Wilson, has embraced the following paragraph in his Annual Report, which, in more particulars than one, is of interest to the medical profession :

"The collection of native drug plants in the United States, considered from a purely financial standpoint, aside from medical and humanitarian aspects, involves the expenditure of millions of dollars annually. The commercial extermination of some of the most useful species is already threatened, and doubtless others would be found in the same conditions were the facts known. The price of one native plant, gingseng, our exports of which average more than a million dollars annually, has more than quadrupled in the past thirty years, so that its cultivation, as urged four years ago by this Department, has now become profitable. It is clear from this and many similar cases that the native drug industry is capable of either decline or improvement, according to the way in which we handle it.

"The Pan-American Medical Congress has recently submitted to me a proposition to co-operate with this Department in a technical and statistical investigation and classification of our native drug plants. By accepting this proposal we shall secure, in a research of which we have long felt the need, the cordial assistance and support of an

influential association of learned physicians; we shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the great growth and growing trade in drugs between the countries of North America and South America. I urge the appropriation of $10,000 to enable this Department to co-operate in this investigation."

We most cordially lend whatever influence the AMERICAN THERAPIST may have to this movement. Any ordinary neighborhood of the temperate north-eastern and middle states is said to contain rather more than 400 different kinds of exogenous plants, to say nothing of endogens and cryptogams. Many plants are used as drugs but comparatively few with definite knowledge of their chemic properties. Doubtless many valuable drugs are quite unknown to medicine. At present it is almost impossible to obtain accurate information regarding more than a few favorite medicinal plants. A systematic chemic analysis, supplemented by physiologic experiments, would save a vast amount of empiric trial and would enable the rational therapeutist to distinguish between an old woman's whim as to the usefulness of a plant and a hint of practical utility. For instance, cranberries are said to be of use against rheumatism, but we have endeavored in vain to learn whether salicylates, alkalies, analgesics, or other active ingredients are present. Scouring rush is praised by some as a diuretic, while others denounce it as worthless. Collinsonia has, likewise, its supporters and sceptics. Dozens of other familiar plants come in the same category.

Our readers can aid the movement by writing to their Representatives in Congress urging the appropriation.

W. Freudenthal suggests tickling the epiglottis as a substitute for Laborde's method of traction on the tongue in asphyxia.

Curangin, a glucoside, has been isolated from Curanga amara of India. It is used in Java as a vermicide. In China, under the name of Koen tao tgas, it is used as a vulnerary.

Current Literature.

CREASOTE INUNCTIONS FOR MALARIA.—Fitzgerald (*British Medical Journal*) uses a mixture of creosote, 1 part, and olive oil, 3 parts; 1 c.c. of creosote for a child, 2 to 4 c.c. (30—60 gm.) for an adult. He claims relief both in cases in which quinine had previously been given and in those without previous medication.

LOCAL APPLICATIONS OF GUAIACOL IN PLEURAL EFFUSION.—Prosorowski has treated eleven cases of pleural effusion by the local application of guaiacol to the skin of the affected side. He has noticed that this method secures a more rapid absorption of the effused fluid than other methods. He knows of no inconveniences attending this mode of treatment. The applications are repeated from five to seven times. They are followed by a fall of temperature of from 1° to 5° F. The temperature rises again a few hours afterward. The author thinks that the results obtained with guaiacol are due: 1. To its action upon the peripheral nerve-endings. This reflexly excites the vasomotor centers. 2. Guaiacol, being absorbed by the tissues, destroys the noxious agents elaborated by the pleurisy.—*Medical Standard.*

MALIGNANT TUMOR.—In the latest issue of *International Clinics*, we reported a case of a young woman who had a pyloric, and subsequently a (gastric) cardiac tumor and other indications of malignancy, including great emaciation and prostration. We submitted the case to operation, with the hope that the stomach could be extirpated. On section, this proved impossible, mainly on account of adhesions. The diagnosis was verified, so far as inspection and palpation through the abdominal wound and palpation through a small slit in the stomach, allowed—all present concurring. At our solicitation jujunostomy was performed. After a month's physiologic rest of the stomach, gastric feeding was resumed, simply be-

cause the patient suffered so acutely from the fistula—the suffering being not at all physical but purely aesthetic. Contrary to all opinion, the patient actually recovered. The tumors, which were small and nodular, could not have been cancerous, though so considered after the most pathognomonic investigation possible, expect microscopic examination of the stained specimen, which was obviously not feasible or, rather, entirely unjustifiable.

The question suggests itself, whether there are not a considerable number of cases of pyloric tumor diagnosed as cancer and ending fatally, which might be relieved by radical treatment. We recall a fatal case in German literature, which proved to be merely lymphoma. We do not believe that our case would have improved so rapidly if the stomach had not enjoyed physiologic rest, and we would urge surgeons to pause to think of the possibilities of enterostomy before doing gastro-enterostomy.

Duodenostomy and Jejunostomy. — Dr. Edward Martin, of Philadelphia, describes a case of pyloric cancer (*Univ. Med. Mag.*) to relieve the obstruction of which, he performed duodenostomy. The results were excellent and the patient was still alive. The method used was Karewski's, the implantation of a catheter, as in Witzel's method of gastrostomy. The article is in substantial agreement with one which was published in the *Medical News*, 1898, urging the employment of jejunostomy for similar cases, on the ground that the gastric cancer would grow much less rapidly if all irritation by the products of gastric digestion were excluded.

The Treatment of Pulmonary Emphysema.—Campbell (*British Medical Journal*, Oct. 28, '99.) recommends in addition to the usual treatment of emphysema, a course of expiratory exercises and external compression to the chest to check the tendency to fixity of the chest. The avoidance of cough, dyspnea and straining, by avoiding their causative factors will prevent over-distention and loss of elasticity. It is important that this treatment, to prevent the chest from becoming fixed and to retain the elasticity of the lungs, should be begun early.

The Treatment of Tetanus by Injections of Carbolic Acid (abstract of editorial in *Medical Record*, October 21, 1899).—Dr. Flavel Woods, of Philadelphia, secured a satisfactory recovery from tetanus by means of large doses of carbolic acid, and considers this treatment more reliable than the serum now in use. This method, which is known as that of Baccelli, has been used in different places for some time, and has given general satisfaction. Babes, in "Twentieth Century Practice of Medicine," speaks of it in very high terms, and says that the statistics of the antitoxine treatment do not show any better results. Babes injected 0.5 gm. of a half per cent. solution along the spinal column every two hours. Arcoli injected a two or three per cent. solution in small doses, the patient receiving .35 gm. a day. The *Accademia Medica*, of Rome, published these statistics: One death in 30 cases with Bacelli's treatment; 8 deaths in 40 with Tizzoni's serum; 4 in 11 cases with Behring's serum No. 1; 2 in 9 cases with Behring's serum No. 2. Lieut.-Col. W. G. H. Henderson, in *Lancet* of June 3, 1899, reports success with the carbolic acid treatment of tetanus in both man and animals. Of twenty patients treated three times a day with injections of 2 m. of carbolic acid to 20 m. of water seven recovered. "Kitasato has demonstrated that carbolic acid acts as an anesthetic, then as an antiseptic, and as an antidote to the toxin of tetanus."—*Medical Fortnightly*.

(Note.—To this we would add that B. B. Griffith (*Ill. Med. Journ.*) reports a case of tetanus cured under treatment by Bacelli's method of injections of carbolic acid.—Editor American Therapist.)

Urotropin in Certain Forms of Genito-Urinary Disease. — Thompson (*Boston Med. and Surg. Jour.*, Nov. 15, 1899) summarizes the essential points as follows:

(1) A urinary sterilizer, antiseptic and acidifier—prompt and reliable in action—moderate in dose, which, if adhered to, renders it both non-toxic and non-irritating to all parts of the animal economy.

(2) In virtue of its peculiar affinity for the urine, into which it passes unchanged, and where it parts with formaldehyde, it is apparent that its action in genito-urinary lesions is likely to be complete and certain.

(3) Its decisive and lasting effect, and especially its comparative singleness of action—which last is a most desirable property—should give it a place in the list of medicinal specifics.

(4) From the observations reported thus far, urotropin has appeared to be frequently indicated in chronic disease, where it has produced exceptionally good results.

(5) In the writer's personal experience the diuretic action of the drug was not marked enough to render it deserving of claim to such virtue.—*Obstetrics*, Jan., 1900.

Piperazin.—Ten per cent. solution of piperazin, one-half ccm., injected into a tophus caused complete disappearance after the tenth daily injection.—Gioffredi, in *Gaz. degli Ospedali.*

For Obesity.—A New York physician has used the following with marked success lately:

℞ Thyroid powder..... 0.05
Ferratin powder..... 0.4
Quinine sulphate..... 0.1
M. Take one powder every four hours.

Mercury Hypodermatically.—Lambkin, of the British Army, reported to the *British Medical Association* on the hypodermatic use of mercury in syphilis. In 20,000 cases he had had one localized abscess. His formula is:

℞ Hydrargyri..... 1
Lanolin..... 2
Ol. carbolati (1:20)..... 4
S. Inject ~~mx~~ (=⅔ ccm.) in the buttock, once a week. Treatment lasts 8 to 12 months.

PRESCRIPTIONS.

Salve Basis.

℞ Vitelli ovi.....25
Ol. amygdalae dulc.....75
Bals. peruviani..... 1
—Unna, quoted in *Journ. Am. Med. Ass'n.*

For Broncho Pneumonia.

℞ Camphorae.....10—20 c.g.
Flor. benzoini.....20 c.g.
Ol. theobromae.....40 c.g.
Dissolve in throat, 3—4 daily.—Caillé.

For Fetid Otorrhea.

℞ Cocainae hydrochlor..... 0 | 25
Liq. formaldehyd..... | 50
Aq. dest.....25
S. Use as injection.—H. Braat, *Sem. Medic.*

Lotion for Pruritis Universalis.

℞ Zinci oxidi.....ʒij || 10
Calamini prep.....ʒj || 5
Liq. calcis..... || 125
Aq. menthae pip....āā ʒiv || ad 250
—F. J. Leviseur, *Med. Times.*

For Sea Sickness.

℞ Acidi citrici..... ʒii
Aquæ destillatæ.....fʒiv
M. Ft. sol.
℞ Potassii bromidi.....
Potassii bicarbonatis.....āā ʒi
Aquae destillatæ.....fʒiv
M. Ft. sol.
Sig. A tablespoonful of each solution mixed together, and taken during effervescence.
—Hare, *Penna. Med. Journal.*

Acute Colic, modified form. (Be sure the colic is not a surgical condition.)

℞ Chloroformi..... 7.5
Tincturæ opii camphoratæ.... 50.
Olei cajuputi..... 2.
Acaciæ pulveris, et.....
Syrupi.....q. s. ad.....100.
M. ut ft. emulsio.
Sig. A dessertspoonful (10 c.c.) in water every 2 or 3 hours.—Wm. Pepper, *Penna. Med. Journal.*

For Dental Anesthetics.

℞ Cocain.....gr. ½
Sulphate of morphin.....gr. ⅛
Sulphate of atropin.....gr. 1/200
Sterilized water.....gtt. xxx
Mix and inject hypodermically v to xv. drops. I use distilled water containing 8 to 10 per cent. of euthymol to keep it sterile.—Dr. N. S. Hoff.

℞ Cocainae hydrochlor..... 4
Ac. carbolici..... 5
Camphorae..... 5
Alcohol (95%) q. s. ad.....100
M. Apply locally to gum and inject a few drops.—Modified from J. Wilton Hope, *Penna. Med. Journal.*

Book Notices.

THE TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA. By WM. R. PRYOR, M.D. With 120 illustrations. Philadelphia: W. B. Saunders. 1899. Price, $2.00.

The author has given us a large book in a very small volume of 240 pages. The whole field of vaginal surgery as applied to pelvic inflammations is gone over in a very thorough but individualistic manner. After the perusal of this book one is tempted to ask, "What is left for abdominal surgery?" The author is unquestionably dogmatic in his views and, although supported by a large personal experience, it is very questionable whether his methods and indications will be readily adopted by gynecologists at large. One thing is certain, however, that those surgeons who have tenaciously insisted upon the exclusive use of the abdominal route could learn a great deal of the advantages of the vaginal methods of operating by carefully studying this book.

It would be simply impossible in the small space of a review to enter upon a thorough criticism of this work which presents a great many novel ideas and suggestions. After considering endometritis under the headings of gonorrhoral, septic, and tubercular, the author describes palliative as well as operative methods for their relief. An over-shadowing indication toward operative treatment is visible from the first. In view of possible extension of infection to the peritoneum and adnexa he advises curettage even in the acute stages of endometritis. This is distinctly contrary to the advice given by many other gynecologists of experience. He concedes that 75 per cent. of cases of puerperal fever will get well in a few days if left alone, but recommends (after purging and trying a few doses of quinine) the prompt resort to *cul-de-sac* incision with packing. He rarely advises hysterectomy. He prefers to curette acute gonorrheal endometritis from the start, claiming that gonorrhea of the endometrium is *never* cured except by surgical means. In chronic cases he adds the *cul-de-sac* incision. He *never* makes applications to the uterine interior in any form of purulent endometritis.

According to his experience all cases of gonorrheal tubal disease at some time either relapse or become re-infected. He prefers to first try palliative work in the beginning, particularly in young women.

In the chapter on Pelvic Peritonitis he attributes all cases to infection by "colon bacilli, gonococci, staphylococci, streptococci, tubercle bacilli, and more rarely by other pathogenic germs." This may be a very convenint classification, theoretically, but practically it is certainly unavoidable. He advises—in the presence of suspected serum, lymph or pus—to proceed with incision and drainage of the posterior cul-de-sac.

The chapters on conservative surgery in the tubes, ovaries, and broad ligaments are very nice reading; but unfortunately many operators have not found the work so dreadfully easy aud would prefer to do it through abdominal incision. His method of treating retroflexion of the uterus by a posterior vaginal incision and packing has been known for a long time, but has tempted few to place much reliance upon it.

The chapters devoted to technique are clearly written and abundantly illustrated. Unfortunately, to a beginner in gynecology, the author might be regarded—from the tone of the book—as the inventor of almost everything in operative gynecology. It is true he denies this in the early part of the book; still the "my method" and "my instrument" and "my mode of operating" are so glaringly apparent everywhere as to be a real objection to an otherwise exceedingly cleverly written book.

The final impression left is that the author deserves a great deal of credit for the strong, positive, assertive—even aggressive—manner in which he handles his

subject. He is treading in a field in which a great many opponents are ready to face him. He attacks ideas and methods sanctioned by the powerful voices of hundreds of masters. But, backed by a large and extremely successful experience, he has the courage of his convictions. The book deserves a wide publicity, particularly among the pure "abdominal surgeons"—some of whom are more bigoted in their own field of work and have very little use for vaginal intra-peritoneal surgery.

Clinical Lectures on Diseases of the Heart, Lungs, and Pleura. By Dr. Joseph M. Patton, Professor of Internal Medicine, Chicago Polyclinic. Clinical Review Pub. Co., Chicago, 1899.

These lectures are designed for advanced students and practitioners of medicine. The different diseases are taken up *seriatim*, and are illustrated with case-reports. A systematic consideration of pathology, etiology, clinical history, treatment, etc., is made in each instance. There being so many subjects treated, it is obviously impossible to do justice to the work in a brief review. To attempt to make extracts would simply be to emphasize agreement or disagreement with particular statements. It is a volume of 395 pages. The style is terse, yet sufficiently full, and the author's views are conservative, without lack of modern information.

Pulmonary Tuberculosis, its Modern Prophylaxis, and the Treatment in Special Institutions and at Home. By A. Knopf, M.D., New York. Published by P. Blakiston's Son & Co., Philadelphia, 1899. 343 pages; 72 illustrations. Price, $3.00.

This book well illustrates the superiority of works dealing with a special subject over those that are more or less cyclopedic in character. Mortality statistics cited in this book seem to show the gradual diminution of the disease. Little is said of pathology, but the etiology, by inhalation, ingestion—which is emphasized more than by most authors—and inoculation—mainly of physician, surgeon, and nurses—is thoroughly but briefly treated. A summary of legal enactment against tuberculosis is given by States. Very valuable from the practical standpoint, though somewhat objectionable ethically, is a full description of many of the most efficient sanatoria, camps, etc. The various means of treatment are discussed without any particularly novel views being expressed. Dr. Knopf believes in the pneumatic cabinet, and disbelieves in the use of tuberculin, serums, etc., either diagnostically or therapeutically, for human subjects, though advocating the use of the accepted veterinary test. Except for numerous Germanisms, the book is well and clearly written, and the monograph will be of great value to the profession, as well as to sanitary officers and philanthropists interested in the suppression of disease.

Text-book of Genito-urinary and Venereal Diseases. By G. Frank Lydston, M.D., Chicago. 1024 pages, 235 illustrations. F. A. Davis Co., Philadelphia, New York and Chicago. 1899. Price, $5.00.

This book is admirably planned and written in the author's fluent yet concise style. Particular attention is due to the introductory chapter on sexual hygiene, and to the chapters on sexual excesses and perversions. The author handles these unpleasant parts with a scientific and skillful touch. He is always frank, he tells no lies in the cause of morality, he is at times even humorous, but always clean and wholesome. Every physician should read these chapters, and many of them ought to be in the hands of the laity. The broad field of genito-urinary and venereal diseases involves a discussion of cutting operations, of mechanic treatment, of microscopic and chemic diagnosis, of internal medicine, of management of nervous cases—all these are thoroughly elucidated and, whenever appropriate, abundantly illustrated. Between the lines one reads that the author, unlike some medical men, is not simply the product of the medical school and the hospital, but a scholar and a scientist. The publishers have done their work excellently, with the sole exception that a rather inferior quality of paper detracts from the appearance of the book and occasionally renders the print obscure.

The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

*THE SUPERIORITY OF HOLOCAIN TO COCAIN FOR CERTAIN OPHTHALMIC OPERATIONS AND DISEASES.**

By EDWARD JACKSON, M.D., Denver, Colo.

Holocain is superior to cocain as an agent for producing local anesthesia for the performance of certain operations on the eye that often must be performed by the general practitioner. This superiority appears to be not fully or generally appreciated, although it is now almost four years since the drug was brought forward by Hirschberg (*Centralblatt für Praktishe Augenheilkunde*, Jan., 1897) as a local anesthetic. The many ophthalmic surgeons who have reported their experience with its use have all agreed as to its efficiency as a local anesthestic; and as to certain points of difference between its action and that of cocain. The practical bearings of some of its properties are such, that for certain uses it should displace cocain; while for others it is but an inferior substitute for the older anesthetic.

Cocain, in addition to local anesthesia, produces constriction of the blood-vessels, disturbance of the nutrition of the cornea and drying of its surface. It also causes dilatation of the pupil, and, if used freely, noticeable softening of the eye-ball, and loss of the elasticity of its sclero-corneal coat. A secondary effect of some importance is the engorgement of the blood-vessels that occurs within one to four hours after its use, sometimes attended with severe smarting and burning.

*Read before the Denver and Arapahoe Co. Medical Society, Nov. 28, 1899.

The influence of cocain of the nutrition of the parts seems to be such as to favor subsequent infection, particularly of the corneal wounds. So that its use should be attended with special antiseptic precautions. Of itself cocain seems to possess no bactericidal qualities. Its solutions serve as a good culture fluid for some of the lower forms of life, and a not unfavorable habitat of the pus cocci; and boiling, the most efficient means of sterilizing such solutions, somewhat weakens them.

In contrast with this, holocain produces no constriction of the blood-vessels and no disturbance of the corneal nutrition or dryness of the corneal surface. Holocain does not dilate the pupil, diminish the tension of the eye-ball, or lessen the elasticity of its sclero-corneal coat. Its application is followed by no subsequent reaction or engorgement of the blood-vessels. It does not in any way favor infection but has a distinct bactericidal influence, and is able to keep free from contamination, by the common pus organisms, the solutions in which it is used.

Randolph (*Johns Hopkins Hospital Bulletin*, July, 1898) found that the pus cocci were killed by the one per cent. solution of holocain, well within twenty-four hours. Heinz (*Klin. Monatsbl. f. Augenheilkunde*, April, 1897) found that the 1:1000 solution retarded fermentation and putrefaction, and that the one-half per cent. solution prevented the development of bacterial germs. Bergey (*Ophthalmic Record*, June, 1899) found the one per cent. solution killed colonies of staphylococci in two and one-half hours, being in this respect equivalent to a 1:1000 solution of mercuric chloride. Some of the algae can grow in such solutions; but this is of

little practical importance, so long as the survival of the pyogenic organisms is certainly prevented.

In addition to the above qualities, holocain produces an equally complete anesthesia more quickly than cocain. The holocain anesthesia is apparently rather the more brief. This brevity of its action has been disputed by Hinshelwood, who has studied the subject carefully (*Ophthalmic Review*, July, 1898). My own experience agrees with that of a majority of those who have written on the subject, that the anesthesia produced by the usual applications of holocain does not last as long as that produced by the usual applications of cocain. Whether holocain is any more efficient than cocain in producing anesthesia in inflamed and hyperemic tissue is still unsettled. Something of the kind might be expected, since the production of local anemia has no share in the production of local anesthesia by holocain. But its superiority in this respect is not very marked. Hinshelwood thinks it has no superiority in this direction.

Let us consider the practical influence of these differences between cocain and holocain on their value for some of the common uses of a local anesthetic in the eye. Perhaps the most common demand for local anesthesia is for the removal of a foreign body lodged in the cornea. In such a case there is always a wound of the cornea, which is liable to be infected. Infection may enter with the foreign body; or the pyogenic organisms may already be present in the lacrimal sac, as in cases of lacrimal obstruction or conjunctivitis. Or the wound may become infected through efforts of the patient, or his well-meaning friends, to get the foreign body out. To these the cocain solution, unless recently and carefully prepared or freshly boiled, adds another possible source of infection. Now a foreign body in the cornea is something of an emergency case. One does not have notice of it beforehand, in time to have special preparations made for its treatment; and when he comes to us the patient is apt to be impatient of any delay about giving him relief. Then the operation is often such a slight one that elaborate preparation for it is very easily neglected; and boiling a cocain solution is somewhat troublesome unless one has special arrangements for doing it. It is probable that most foreign bodies are removed without special sterilization of the anesthetic solution; and of the infected ulcers that follow such removals a certain number are due to infected solutions of cocain. It is a decided advantage to use a solution that can be depended on to at least keep itself clean. This advantage the holocain solution possesses over that of cocain.

Even if infection occurs otherwise than through the solution employed to produce local anesthesia, cocain favors such infection, while holocain opposes it. H. Derby (*Archives of Ophthalmology*, Jan., 1899) has found holocain an excellent local application for infected corneal ulcers. Wm. F. Norris (*Ophthalmic Record*, June, 1899) reports a similar favorable experience. My use of it in a few such cases has appeared beneficial; and certainly was followed by satisfactory results. There is no reported experience that indicates that holocain may be harmful in such conditions. I believe the general adoption of holocain, as the local anesthetic for the removal of foreign bodies from the cornea, will tend to diminish the number of eyes subsequently damaged or lost through corneal infection.

Even supposing no infection occurs, the use of cocain for the removal of a foreign body is followed by dilatation of the pupil, and some disturbance of the corneal refraction by irregular corneal astigmatism. The dilation of the pupil is not attended with loss of its reaction to light, and on this account may be less annoying than that produced by one of the true mydriatics. Still, it often causes quite a perceptible annoyance, and in any case exaggerates the interference with vision that is produced by the irregular astigmatism.

Not rarely the vision is thus reduced to one-half, or even less, for an hour or so after the operation. This interference with vision will often be ascribed to the foreign body. But the patient may notice that it only followed the operation of removal; and we run the risk that if permanent impairment supervene during the temporary impairment we have produced, the patient may ascribe the permanent impairment to our interference. All these risks are avoided by the use of holocain. It also avoids the reaction and hyperemia that follow the use of cocain; and the saving of time by its quicker action is worth considering.

For the removal of foreign bodies from the conjunctiva, to prevent the pain caused by conjunctival applications of strong astringents; and for such corneal operations as the curretting or cauterization of ulcers, or paracentisis, holocain possesses many of the advantages over cocain that have been above enumerated. For the needling of secondary cataract or operation of discission, operations liable to be followed by corneal infection, holocain must be regarded as the better anesthetic.

In some cases of cataract in old people, with inelastic tissues, holocain may be superior to cocain. In the majority of cataract cases, however, it is probable that cocain, by its influence upon the ocular tension, lessens the liability to prolapse of the iris and vitreous. In operations, like those for squint or pterygium, where the control of hemorrhage is of importance in facilitating the operation, cocain is generally to be preferred; although the hemorrhage can be controlled by the use of suparenal extract prior to the application of holocain. It is believed that holocain is considerably more poisonous than cocain. Hence it has not been used for operations requiring the hypodermic injection of a local anesthetic, and is not suited for application in large quantities or to extensive absorbent surfaces. Used for the operations above referred to as best performed with its help, it has produced no toxic symptoms.

In the treatment of certain diseases of the eye cocain has been employed. In iritis it assists materially the action of atropin and similar drugs in dilating the pupil. For this holocain would be quite useless.

In conjunctivitis cocain is sometimes added to a collyrium to lessen the discomfort or conjunctival pain in the eye, or likely to be caused by other ingredients of the collyrium. This is a dangerous practice. The subsequent reaction and hyperemia, recurring after each application, increase in intensity; and aggravate rather than allay the original trouble. The temporary relief is a constant temptation to repeat the applications more frequently; and thus the trouble may be rendered far more serious. Then there is the influence of cocain, favoring corneal infection, which has caused the loss of some eyes under such treatment.

Holocain, on the other hand, does not cause any secondary reaction, and distinctly antagonizes the pathogenic organisms most frequently found in the conjunctiva. Its use seems, therefore, to be free from such objections and risks. I have used it in a good many cases of conjunctivitis forms, and have so far seen no reason to regret prescribing it. Its quicker action makes it markedly superior to cocain in lessening the pain caused by solutions of the stronger astringents.

Holocain has thus far been used chiefly in the form of the hydrochlorate. This is soluble in distilled water at ordinary temperatures to the extent of a little over one per cent. The one per cent. solution has been generally employed to produce local anesthesia. It is very readily precipitated by the alkalies. This must be born in mind in prescribing it in collyria. In such prescriptions I have used it in the proportions of 1:200 to 1:100. As an application to corneal ulcers the one per cent. solution may be used.

ANOTHER ILLUSTRATION OF THE VALUE OF THE ELEVATED-HIP POSITION IN DIFFICULT LABOR.

By Abram Brothers, M.D., New York,
Adjunct Professor of Diseases of Women at the New York Post-Graduate School of Medicine.

Several years ago I published what I regarded as a new method in the management of prolapsus of the funis. This consisted in placing the patient in an inverted chair with the legs hanging down. In three cases then published, and in two more since then, I have been able to save every mother and child by resorting to this position and performing version. It was in this connection that I discovered how rapidly version could be done with the patient in this position, and I called attention to the fact. Since then Dr. R. Abrahams, of this city, has published several papers calling attention to similar success, after resorting to the method. Stimulated by my published results, several other colleagues, to my knowledge, have used the method successfully in similar cases. In the December issue of the *American Journal of Obstetrics*, Dickinson, of Brooklyn, publishes an excellent illustrated article of the same method, which he describes under the name of "the combined Trendlenburg Walcher Posture." He assures me, through correspondence, that he has been using the method during the same period of time as myself, and I have no doubt that we hit upon the same idea simultaneously and without any knowledge of each other's work.

The case I wish to report is the following: On the morning of June 1, 1899, I was invited by Dr. Geo. E. Wilson to visit a difficult case of labor. The woman was about 27 years of age, a Pole, and had given birth to one child with great difficulty. This previous birth was followed by a diseased condition—evidently pelvic inflammation—for which an operation (shown by a left inguinal scar) had been necessary. The midwife had sent for Dr. Wilson, who found the head presenting in a transverse diameter. Sending for Dr. Shannan, attempts were made to turn the head into a more favorable position under anesthesia. Then the forceps were applied, but failed to improve matters. Then version was done, bringing down a foot. At the end of two hours, under chloroform, I was sent for. The patient was in a terrible state of collapse and both needed medical gentlemen were thoroughly exhausted by this time. I found a foot (the right) dangling from the vulva. Appreciating, from the doctor's history, that the head was still impacted in the pelvis, I had the patient drawn to the foot of the bed, placed on an inverted chair and secured by a large sheet sling—passing from the back of the patient to the bed-post, thus securing the patient from sliding downward.

Under anesthesia, on passing the hand into the vagina, I felt first the umbilical cord—which had ceased pulsating—and next the head in a transverse position and very tightly wedged in the pelvis. Securing the exposed foot into a tape I devoted myself to pushing back the cord and the head. This took a little time. I next proceeded and, after some difficulty in finding the opposite foot, succeeded in delivering it. The patient was now lowered to the ordinary position. The delivery of the shoulders caused considerable trouble, but not nearly so much as that of the after-coming head which required the application of the forceps. The patient who was in very collapsed condition failed to rally after the delivery and succumbed in several hours in spite of active measures.

In describing this case, I wish to call attention to the success of this position in breaking up a combined head and footling presentation after two hours' futile efforts on the part of colleagues of many years experience. Although I suspect a possible uterine rupture previous to my visit as contributing to the fatal result, there was no evidence of it to the examining hand.

IS CANCER CURABLE?

By J. M. G. CARTER, M.D., Sc.D., Ph.D.,
Waukegan, Ill.,

Professor Clinical and Preventive Medicine, University of Illinois (College of Physicians and Surgeons, Chicago); Fellow American Academy of Medicine, Member American Medical Association; late President Illinois State Medical Society, etc.

Is cancer curable? This question is one of great interest and moment. Every one who has a case where no doubt existed as to the correctness of diagnosis, and positive results followed treatment, ought to report his treatment to the profession. In this way, if at all, it is possible ere long to place cancer in the list of curable diseases.

The case I now report was under my own observation from the time of discovery of the tumor until complete recovery occurred.

The patient was a woman, married, mother of one child. She was 46 years old and in excellent health until a few months prior to coming under my care.

In February, 1898, the patient was struck upon the abdomen (exact point not remembered) by a post of a chair carried in front of her as she passed hurriedly from one room to another, the chair striking the doorway. The immediate pain was severe but general—not located in any particular point of the abdomen. However, the suffering was momentary, and not thought of again until the patient was plied with questions by the physician seven or eight months afterwards. In April of the same year the patient was thrown from a carriage, but not apparently injured.

About the first of June she began to feel rather tired and not able to do her usual housework with customary ease and comfort. This did not attract especial notice as her duties had been somewhat arduous for a year or two, and it was thought a little rest would put her in good condition again. The rest was not taken until August, when she went away from home for a month, with much apparent benefit.

About September 20, 1898, the patient consulted me in regard to pain felt in the right iliac region. Upon examination I found a tumor in the vicinity of the appendix. As there was some fever and the pain seemed to result from lifting or reaching up, the patient was ordered to bed, alteratives and counter-irritants prescribed. In a few days, contrary to directions, the patient was about the house. The fever had disappeared and all pain and tenderness subsided, but the tumor had not diminished in size. The fever was probably caused by a slight catarrhal cold, and did not exceed 101° F.

Nothing was developed until about November 10, 1898, except that the patient was experiencing a tendency to become tired more easily, complexion was not so ruddy, and there was some loss of flesh. About the date mentioned, there was some tenderness of the tumor, it was enlarging, and the symptoms just described were increasing in severity. The patient was again sent to bed. The 11th the temperature rose to 102°, subsiding after 48 hours.

Not being satisfied as to diagnosis and believing an operation necessary, I called Dr. Henry Parker Newman of Chicago in consultation. November 13th the patient was anesthetized and a rigid examination disclosed a tumor in the iliac region not connected with the organs of generation. An operation was advised and the patient was at once taken to Marion-Sims Sanitarium, Chicago.

The operation was performed November 14, by Dr. Newman in the presence of Dr. D. A. K. Steele and five other physicians and surgeons. When the abdomen was opened it was found that the tumor involved the caecum and appendix, that the adjacent intestines were included and that the whole was fixed to the lateral walls by infiltrations of the morbid growth. The tissues were separated and adhesions broken up as far as seemed advisable. The tumor was of the usual appearance; in portions, hard, modulated, somewhat

rough in places; 4 or 4½ inches in transverse diameter, but longer in the other axis. It was evidently malignant and carcinomatous. The infiltrations were so extensive that it was found impossible to remove the neoplasm. It did not seem best to remove any of the tissue, hence no microscopical examination was made; but there seemed to be no doubt as to the diagnosis, carcinoma of the caecum.

From this date the patient lost flesh rapidly, especially in the lower extremities. About Nobember 23d I prescribed protonuclein, 3 gr. tablets. She continued the use of these alone for about one month. I then gave arsenauro in addition, upon the recommendation of Dr. J. B. Murphy, of Chicago. This remedy was used for about one month, when on account of an occasional nervous tremor the patient objected to taking the remedy any longer. The protonuclein was continued for three months after this, making five months it was taken continuously. It was prescribed for a month longer, but I went to Europe the first of May, and during my absence it was discontinued.

Beginning about the first of November, the patient was constipated, and suffered considerably from eructations of gas. In January, 1899, it was observed that these symptoms were growing less annoying. In February the patient was about the house and the tumor was perceptibly diminished in size. When I went away, May 1, 1899, the tumor was barely recognizable. July first, after my return, I could not detect any signs of the tumor, and the patient had recovered her strength, her usual flesh, and naturally ruddy complexion. To-day, Feb. 13, 1900, she is very well, and so far as can be determined at this writing, there has been a thorough and permanent cure.

T. A. Hopkins (*Med. Fortnightly*) considers nosophen (tetraiodol-phenol-phthalein) as one of the best of the iodine compounds, and advises it as a powder dressing for chancroids.

*SIGNIFICANCE OF VISUAL DISTURBANCES DURING NEPHRITIS.**

By Adolph O. Pfingst, M.D., Louisville, Ky.

In a paper read before the Falls City Medical Society the author said in part:

Patients suffering from inflammation of the kidneys, particularly the chronic variety, are not infrequently the subjects of amblyopia or amaurosis in one or both eyes.

Disturbance of vision in nephritis may be due to poisonous products blunting the sensibility of the light-perceiving or light-conducting elements, or to pathological changes occurring in the tunics of the eye, recognizable with the ophthalmoscope. The former (toxic amblyopia) may occur in any form of nephritis, although more frequent in the acute parenchymatous variety, especially after scarlet fever and during pregnancy.

The impairment of vision and actual blindness in acute uremia affects both eyes alike and develops rather suddenly, reaching its height in from thirty-six to forty-eight hours after its beginning. It is said exceptionally to come on so suddenly that the individual is deprived of sight as by a flash. Although vision may be reduced to a perception of light, or be lost entirely, the pupillary reflex usually remains undisturbed, sometimes dilated. The defective vision is of transitory duration, return to normal taking place in about twenty-four hours.

Preceding the visual complications the patient nearly always complains of headache, sometimes of digestive disturbances, dizziness, stupor, convulsions, etc., by whose presence, along with the absence of changes in the fundus of the eye, the diagnosis of uremic amblyopia is made easy.

Examination of the fundus of the eye in uremic blindness reveals nothing pathol-

* This original paper was published in the *Medical Age*, Detroit, Mich. The discussion which follows was omitted, and was specially reported for the American Therapist.

ogical unless previous changes, independent of the uremia, have taken place.

While the pathology of partial and total blindness in uremia is undetermined, the theory of supersaturation of the blood with urinary ingredients (urea and extractive matter), which brings about a diseased condition of the visual centre and sometimes the centre for the pupilary reflex, and destroys their power of receiving and generating force, seems a plausible one. It should always be looked upon as a grave symptom of Bright's disease, as an attack usually indicates the beginning of a fatal termination.

The treatment of uraemic amaurosis should be carried out on the principles of uremia uncomplicated with blindness, viz.: rest in bed, warmth over the region of the kidney, saline cathartics and diaphoretics.

The amblyopia or amaurosis of nephritis resulting from pathological changes in the tunics of the eye occurs in the form of retinitis, which, from its association with albuminuria, has been designated "retinitis albuminurica." It has been estimated to occur in from ten to thirty per cent. of all cases of chronic nephritis, especially the interstitial variety. It is always associated with more or less inflammation of the optic nerves. Exceptionally it occurs in the acute nephritis of pregnancy or scarlet fever. The retina and the optic nerve become inflamed, giving the disk, which is normally sharply defined and pink, a hyperemic, hazy appearance. The arteries are usually small and the veins large and tortuous. In rare cases there is marked papillitis (choked disk).

Soon after the beginning of the neuroretinitis, sharply defined white spots appear in the fundus near the disk. These patches, which show a marked tendency to increase in size and number, conceal in part or entirely the retinal blood-vessels. Between the white spots dark-red, hemorrhagic areas are often observed. These have a peculiar streaked appearance near the disk, which is supposed to be caused by blood in the nerve sheaths. Smaller white spots also appear in the region of the macula, where they take on a characteristic stellate formation. Small streaks made up of minute white specks radiate from the fovea centralis, which remains free. These small areas around the macula are supposed to be due to a fatty infiltration into the supporting fibres of Mueller. The larger areas previously mentioned are due to a fatty deposit in the granular layers of the retina.

Disturbance of vision in albuminuric retinitis varies in different cases and in different stages of the same case. With but few exceptions both eyes are affected. There is often a striking lack of proportion between the loss of vision and the ophthalmoscopic appearance, extensive pathological changes being at times associated with but slight loss of vision, and *vice versa*. High degrees of amblyopia have been observed, but complete loss of vision is extremely rare. The defect of vision is insidious in its development, as the form of nephritis with which it is usually associated would suggest, and because of this slow development many cases in which the visual apparatus is affected run their course and end fatally, the patient never becoming aware of the complication. Frequently, also, patients may notice dullness of vision, but attribute it to "old age," or to a general indisposition, never thinking to associate it with renal trouble. On the other hand, changes in the fundus of the eye have, time and time again, enabled the ophthalmologist to discover diseases of the kidney before either the patient or the medical attendant had suspected it.

During albuminuric retinitis blindness may develop suddenly from uremic poisoning or from retinal hemorrhage involving the macula, the latter occurring, as a rule, only on on one side. These hemorrhages which take place into the intergranular layers of the retina are often quite numerous and extensively scattered about the fundus (hemorrhagic retinitis).

They may occur in nephritis without the appearance of the characteristic white patches.

The cause of hemorrhage into the retina can be readily appreciated if we consider the pathological conditions of chronic Bright's disease. The arteries are often sclerosed, thickened, and their course tortuous; the coats become infiltrated with new connective tissue and lime salts under the influence of the poisonous products circulating in the blood. The age at which chronic nephritis is most common (over forty years) would suggest a more fragile condition of the vessels than in youth; added to this the heart, which has undergone compensatory hypertrophy in its endeavor to get blood through the compressed vessels of the kidneys, sends the blood into the exposed and brittle retinal vessels, and a rupture is the natural consequence.

The diagnosis of retinal changes can only be made with the ophthalmoscope, although a gradual diminution in vision in apparently normal eyes and the presence of albumen and casts in the urine would lead one to suspect the trouble. Ophthalmoscopic appearances similar to those of albuminuric retinitis may be occasionally found in lucæmia, pernicious anemia, diabetes and lead poisoning independent of albuminuria. In these cases examination of the urine will clear up the diagnosis.

The prognosis with reference to visual acuity in albuminuric retinitis is not altogether unfavorable. While improvement in the defective vision is rarely noted, complete and permanent blindness is exceptional. If the patient survives long enough amaurosis may result from atrophy of the optic nerve following neuritis. It may also result from detachment of the retina occurring coincidentally with the retinal inflammation.

The appearance of retinal changes is always a serious complication, indicating an advanced stage of the renal affectation, and danger to the life of the individual. Death may be expected to follow within a year. Life is rarely prolonged over that time, and "two years has by some means been assigned as a limit of life after its recognition."

In acute nephritis accompanied by albuminuric retinitis vision has been known to return to normal after snbsidence of the inflammation in the kidneys.

While there is an intimate connection between the kidneys and the retina, it is not known wherein this connection lies. Some authors (Michael) believe that the kidneys and the retina is one and the same—an extensive pathological condition of the vessels. Most observers, however, adhere to the belief that the retinal changes are secondary to those of the kidneys—*i.e.*, that the uremic poison acts upon the nerve tissue of the eye.

The treatment of albuminuric retinitis must be governed by the form of nephritis which it accompanies. While the kidney disease (chronic) is usually beyond the stage where a cure can be expected, much can be done to comfort the patient. The nitrogenous foods should be diminished by substituting milk for meats. Alkaline mineral waters act beneficially; alcoholics should be avoided; fresh air and light exercise encouraged; tonics are given by some.

It may be well to consider separately the treatment of those cases of Bright's retina occurriug during pregnacy, to which special attention attaches, on account of the question of advisability of inducing premature labor. Vision has been reestablished more or less completely in these cases after an expectant treatment, whereas in a considerable number blindness resulted from atrophy of the nerve, retino-choroiditis, or detached retina. The danger of blindness increases with the duration of the inflammation. This has brought the weight of opinion in favor of bringing about premature labor if retinitis occurs early, say in the first five or six months. and to institute expectant treatment if occurring after that time, unless the changes are very extensive.

Professor Silex, of Berlin, who has studied this subject closely, advises "interference with pregnancy in *all* cases where retinitis is found."

Discussion.

Dr. W. F. Boggess:—I have seen many cases of eye troubles in nephritis. I remember when at the Lakeland Asylum we had two cases of total blindness coming on in old cases of cirrhotic kidney; one man aged sixty years, the other a man aged forty-five. They had had cirrhotic kidneys for many years possibly, and finally became totally blind from rupture of the central vessel of the retina. I have seen one case of blindness with acute nephritis in a child three or four years old subsequent to scarlet fever. I recently encountered rather a singular condition in a woman just after delivery, which I have no doubt was a nephritic eye trouble. I had left the lying-in chamber and a few hours later was called back, and the family told me the woman had said everything, had suddenly become dark; that she could not see anybody in the room. She had considerable albumen in her urine before delivery. She remained totally blind for twenty-four hours, when vision began to return slowly, and since then she has made a complete recovery.

My experience has been that eye changes in nephritic troubles do not appear until about the time of delivery, or just afterwards. The pregnant woman bears acute desquamative nephritis extremely well up to the time of delivery; the urine may be loaded with albumen and filled with casts, yet she wlll not suffer much discomfort except from the water-logged condition until delivery or just afterwards. I have never seen eye trouble come on during the first six months of utero-gestation, but have no doubt that it occurs.

Dr. W. B. Pusey:—I remember one case in which the diagnosis of kidney trouble was made with the ophthalmoscope first. It was a marked case, but the man lived one and a half or two years after that. Eye symptoms are said to occur in ten to twenty per cent. of all cases of kidney trouble, but I am unable to confirm this from my own observation. The trouble always exists in both eyes, and I have seen one case following pregnancy that cleared up readily after delivery. She was advised by her physician to avoid repetition of the pregnancy.

Dr. J. M. Williams:—I am reminded of a case seen three or four years ago in a child six years old, who had a severe attack of diphtheria. After convalescence, which had been rather tedious, the mother took the child out driving, it caught cold and acute Bright's disease developed. During the last few days of its illness (which proved fatal) the child complained frequently of total blindness coming on at intervals. I was called two or three times during such attacks and the mother would become hysterical when the child said he could not see, that everything was dark, etc. Total blindness occurred ten or twelve times during the last few days of the child's illness, never lasting more than half an hour, and would then clear up itself.

Dr. T. C. Evans:—The oohthalmologist armed with an ophthalmoscope has an opportunity of some "grand-stand plays" in the way of making a diagnosis when the trouble is not suspected. We cannot judge with the ophthalmoscope the amount of amblyopia we are going to find, because in cases of advanced albuminuric retinitis we not infrequently find that the patient has normal vision even with extensive ophthalmoscopic changes. I cannot agree that the ophthalmoscopic changes may precede the appearance of albumen in the urine. While it is not uncommon for the ophthalmologist to detect kidney lesions by the ophthalmoscopic appearances even before the family physician has discovered any trouble with the kidney, there may have been nothing to call the family physician's attention to the kidney. Unfortunately the service of

the ophthalmologist is not needed when the diagnosis is made; the only thing we can do is to send the patient back to the family physician, the lease on life in that stage of the disease being short at best.

So far as treatment is concerned, there is nothing the specialist can do. There is nothing that can be done for the eyes that will shorten the course of the disease or in any way improve the prognosis.

Dr. Carl Weidner:—The ophthalmoscope does not reveal the extent of the changes in the eye in many cases, which may be a lesson to us in considering the advisability of interference in cases seen during pregnancy. They are mainly cases of nephritis which is rather acute of the parenchymatous variety; towards the end of pregnancy circulation in the kidney is poor, and at the end of pregnancy sudden attacks of amaurosis may develop. It would be difficult to judge by the ophthalmoscope whether premature labor should be induced. Whenever there is marked diminution of the solid elements, particularly urea, with diminution in the quantity of urine, and the presence of a large amount of organic constituents indicating damage to the kidney, it is safe to interfere with the progress of pregnancy.

It will depend more upon the result of examination of the urine than other conditions that may arise. In my experience the proportion of cases in which eye symptoms exist during nephritis has not been as great as stated. The organic changes in the eye depend mainly upon changes in the blood vessels of the eye just as we find changes in all the biood vessels. especially in cases of interstitial nephritis occurring at a late period as a rule; therefore we may correctly say that death usually occurs within one or two years after the changes in the eye are demonstrable. It has been stated, and the patients are sometimes told, that eye symptoms occur early. This does not agree with my experience. Whenever you can demonstrate with the ophthalmoscope that certain changes have taken place in the minute blood vessel of the eye, changes have certainly preceded this in the vessels of the entire body and the kidney, the effect of whtch can be demonstrated by examination of the urine. I have sent patients to the ophthalmologist when I was satisfied from an examination of the urine that they had nephritis, yet the ophthalmologist found nothing in examining the eye. Examination of the urine would reveal the diagnosis in all cases but in many instances the doctor's attention is not called to the kidney. Patients may complain of an occasional attack of asthma, or some form of digestive trouble, and whenever you find such a history you should examine the urine.

Dr. E. Speidel :—A colored girl eighteen years of age was sent to me under the impression that I was a specialist, to be examined for glasses. Upon inquiring into the history I suspected Bright's disease. She said that at the age of seven years she had diphtheria, followed by nephritis, attended with dropsy. Examination of the urine showed specific gravity of .1006, with an abundance of albumen. Her vision at that time was very poor; she could not read large headlines in the daily paper. She was sent to Dr. Ray subsequently, and I learned from him that she had a well-marked case of albuminuric retinitis. The girl said that her mother worked and she had to depend upon herself to get her meals. She admitted that she ate twenty cents' worth of candy a day; between times she would simply get a fat piece of bacon and eat it without anything else. Her entire diet consisted of this amount of saccharine matter and fat bacon. I put her on an absolute milk diet, giving her large doses of salicylates, and in three weeks her vision had greatly improved. After putting her on this diet she became dissatisfied and came to see me only at irregular intervals, and finally I lost sight of her entirely. Meantime I had mentioned the case to Drs. Pfingst and Lederman, and learned that the prognosis was very bad, that such patients

were likely to live from three months to two years. A month after I lost sight of the patient her mother asked me to take charge of the case for the second time. I told her the best thing to do was to send the girl to the city hospital, where she would have proper attention and where her diet could be controlled. I learned that she died in the city hospital a month later from chronic nephritis.

Dr. J. B. Bullitt :—From the standpoint of favorable prognosis and the ability to help people who may have albumiuuria, with eye symptoms, it would seem that this class of cases is probably limited to those with amaurosis without the appearance of any changes which can be detected by the ophthalmoscope in the retina itself. The percentage of cases of chronic nephritis that develop eye symptoms as stated strikes me as being extremely high. I am surprised that twenty or thirty per cent. of cases should be so effected. Pregnant women who develop albuminuria with the symptoms described as amaurosis may entirely recover after delivery.

It is important that the general practitioner or obstetrician who has charge of these cases should be able to determine when premature labor should be induced, if at all. I can readily appreciate that this determination may be an extremely difficult matter.

Another class of cases has an important bearing upon this subject, viz.: women who have had no albumen in the urine before labor, and a few days or weeks following delivery develop symptoms pointing to this condition. I have such a case in mind now, where a woman who had no albumen in her urine previous to labor, twenty-four hours after delivery complained of everything being dark in the room; that she could not see those about her, etc. Examination of the urine at that time showed a high percentage of albumen; the case progressed rapidly; she had uremic convulsions, and died within forty-eight hours. In pregnant women whose urine shows no albumen before labor, but is detected shortly afterwards, very likely another factor might bear some relation to the condition, viz.: the anesthetic which is generally used in delivering women. Ether not infrequently injures a kidney which is already diseased. It is claimed by some writers that ether has the power of producing nephritis; and the same thing is true of chloroform, although not to so great an extent.

Dr. A. O. Pfingst :—The obstetrician is apt to consider cases of nephritis of pregnancy implicating the vision from a different standpoint than the ophthalmologist. While it is our foremost duty to look to the life of the individual we must also consider her future welfare, which in these cases means her visual acuity. Those cases of sudden amaurosis coming on late in pregnancy, to which Dr. Weidner referred, are to my mind usually due to uremic poisoning, and the question of interference should be ruled by the constitutional disorders entirely. We know that such cases do not cause permanent blindness.

The eyes which show retinal changes towards the end of pregnancy should be allowed to go to full term, as the process in the retina is hardly rapid enough to destroy the vision in a few weeks. Considerable sight may also be restored after delivery of the child and clearing of the retina where the process is not of too long a duration.

Where we notice retinal changes early say before the sixth month, I believe that the proposition of Professor Silex, to bring on an abortion, should be carried out to save the sight of the mother, provided of course that the vision is impaired.

Urinary changes would, I think, rather settle the question of interference as regards the life of the patient.

In reference to the suggestions of Drs. Evans and Weidner, that the urine always shows evidence of renal affection before the retina in interstitial nephritis, I can, from my own experience, say that such is not always the case. I have seen two cases in which repeated examinations of the urine, chemically and microscopically, revealed no signs of nephritis for six weeks after the discovery of the eye trouble.

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A. L. BENEDICT, A.M., M.D., - - - EDITOR,
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Editorial.

ASEPSIS OR ANTISEPSIS.

The methods of surgery have changed materially, pendulum fashion, during the last two decades. From filth to rigorous antisepsis and again to thorough cleansing, allowing bacteria not washed away to accomplish whatever harm they might, back again to a moderate use of antiseptics, the general profession has followed the surgeons. Too often, in the light of modern bacteriologic researches, antiseptic surgery has been guilty of inconsistencies, as when, with hands dripping with corrosive sublimate, the surgeon fumbles in his pocket for his eye-glasses or scratches his head with a probe. (These are not imaginary trespasses; we have personally witnessed them.) Sir JOSEPH LISTER is quoted in the *American Practitioner and News* as follows, by Dr. BROWN:

"As regards the spray, I feel ashamed that I should have ever recommended it for the purpose of destroying microbes in the air. If we watch the formation of the spray and observe how its narrow initial cone expands as it advances with fresh portions of air continually drawn into its vortex, we see that many of the microbes in it, having only just come under its influence, can not possibly have been deprived of their vitality. Yet there was a time when I assumed that such was the case, and, trusting the spray implicitly as an atmosphere free from living organisms, omitted various precautions which I had before supposed to be essential. . . . If, then no harm resulted from the admission, day after day, of abundant atmospheric organisms to mingle unaltered with the serum in the pleural cavity, it seems to follow logically that the floating particles of the air may be disregarded in our surgical work, and, if so, we may dispense with antiseptic washing and irrigation, provided always that we can trust ourselves and our assistants to avoid the introduction into the wound of septic defilement from other than atmospheric sources."

Dr. BANTOCK, of London, is alsoqu oted to show that good results may follow gynecologic operations, especially of the cervix and perineum, when only cleanliness is employed. We remember personally an eminent Philadelphia surgeon who was not even decently clean in his operating although he did use some corrosive sublimate through a metallic syringe, and who used to get surprisingly favorable results. Still, we hardly agree with Dr. Brown's conclusion that "The role played by bacteria in disease is an undecided question," or his implication that there is an essential difference between atmospheric bacteria and those introduced by the surgeon's hands. A fairer conclusion seems to be that, under ordinary circumstances, rigid cleanliness or antisepsis with faults of asepsis, usually leaves so few virulent bacteria that the cells of the body are competent to deal with them. Virulence is a matter not yet brought to a practical working basis and especially overlooked by the critics of internal methods of antisepsis. The duty of the surgeon, according to our standpoint, is to exclude as many germs as possible, to approach as closely as possible to sterilization without injuring the tissues of a wound by irritant antiseptics, and to leave as little to the resisting forces of the body as possible.

The question between antisepsis and asepsis is largely one of circumstances, even of money. If the surroundings are

filthy and virulent bacteria are present in large numbers, antisepsis should be employed—rationally, of course. If operating room, bed-room, patient, surgeon and assistants can be brought to a nearly germ-free state by water alone, or by water, soap and heat, chemical antiseptics may well be omitted. The beginner, operating with less careful assistants, in attics or farmhouses, consigning his patient to a sour bed, will probably have bad results if he takes too literally the advocacy of cleanliness made by surgeons more fortunately circumstanced.

THE CURABILITY OF CANCER.

That a cancer, thoroughly eradicated by surgical means, may leave no foci for renewed growth is now well established. Dennis, of New York, has recently presented statistics showing that approximately a third of all cases of cancer operated on early and radically may be expected to recover.

In the present issue, place is given to a claim for the curability of cancer by medical treatment, operation having been abandoned as hopeless. In another connection, we alluded to a case seen personally in which there were tumors, presumably malignant, at both pylorus and cardia, but in which recovery occurred, after an exploratory coeliotomy, by enforcing physiologic rest of the stomach, while nourishing through a jejunal fistula. Neither in Dr. Carter's case nor in ours was it expedient to remove a portion of the growth for microscopic examination. It is, therefore, merely a matter of opinion as to whether either tumor was malignant, and in this respect Dr. Carter gives the preference to clinical symptoms and microscopic appearances while we modify our diagnosis to conform with the outcome of the case. Last year we saw a case of right pelvic tumor four or five inches in diameter which was diagnosed by the surgeon as cysto-sarcoma. The cystic portion was evacuated but radical removal was not possible. A microscopic examination of teased and unstained portions of the tumor verified the diagnosis of sarcoma, in the mind of the surgeon, though personally we were not convinced. The patient has recently been examined and found to be free from tumor.

Although extremely skeptic as to the curability of cancer by medicinal treatment, we do not feel justified in closing our columns to those who are more sanguine and less sanguinolent. While there exists no indubitable evidence of the curability of cancer short of direct extirpation, there is no *a priori* knowledge of the pathology and etiology of malignant growths of either kind, such as has led the French Academy of Science to exclude discussions of the squaring of the circle and the trisection of the angle.

All theories of the nature of malignant tumors may be grouped in two classes: (1) the principle of one being that the tumor is the expression of a microbic disease and thus of the nature of an exaggerated granuloma, such as tuberculosis; (2) the principle that, without invasion by microorganisms, some chemic or biologic abnormality irritates certain cells to an undue amount of vigor and reproductive action, sarcoma being analogous to the old-fashioned proudflesh, carcinoma being practically a papilloma turned outside in. Neither of these general beliefs is incompatible with the idea of a cure by medicinal agents. Certainly, the infectious granulomata are frequently cured by means that support the strength of the normal cells and depress the vitality of the invading germs, while in many instances we are able to control excessive manifestations of vital functions of cells.

Let us close with a word of practical caution: do your experimenting with patients who are not suitable for surgical intervention.

The Tri-State Medical Society (Iowa, Illinois and Missouri) will meet in St. Louis, April 3 and 4, 1900.

Current Literature.

Stypticin in Uterine Hemorrhage. — Abegg finds the administration of stypticin, in one-grain doses two to five times a day, of considerable value in profuse or irregular menstruation and flooding during the puerperium and climacterium. As might be supposed, the drug is useless in beginning abortion and large myomata and polypi.—*Amer. Journal of Obstetrics*, from *Centr. f. Gynek.*, 44, 1899.

Iced Chloroform.—Iced Chloroform has been used as an anesthetic in Professor Schorburg's clinic in the Julius Hospital at Wuerzburg in over 14,000 cases without a single unpleasant result. The advantages claimed for this preparation of chloroform are the quickness of its action, its comparative freedom from danger, and the absence of the nausea and depression so common with other anesthetics.—*Medical Times.*

Cocaine for Vomiting of Pregnancy.—Dr. Dudley, in the Dec. 19, 1899, meeting of the Woman's Hospital Society (New York, reported in *Amer. Journal of Obstetrics*, Feb., 1900) said:

For the persistent vomiting of pregnancy there is no remedy so good as cocaine. I am in the habit of giving it in capsules in order to avoid the unpleasant effect which it produces in the throat—a half grain of cocaine to three of monobromate of camphor, the latter being added to offset the bad effect of the cocaine. I have found that this will invariably stop the vomiting.

Asparagus as a Diuretic.—Hare used an extract made from the tops of asparagus in cases of general edema, with good effect upon the kidneys. The amount of urine was usually considerably increased in the course of a few days. In an advanced case of atheroma, with aortitis, probably fatty heart, it had no effect. In one case digitalis, bitartrate of potassium, and an infusion of juniper berries failed, while under the use of this drug the urine arose from 27 to 40 ℥ per diem. In one case he continued its use for a month with good effect so long as the drug was given.— *Therapeutic Gazette.*— *Pediatrics*, Feb. 15, 1900.

Puerperal Infection.—H. W. Longyear of Detroit (*Medical Times*), thus summarizes the treatment of puerperal infection:

Local Treatment.—Early recognition and destruction of pseudo-membrane by topical applications is of great importance. The iodine, carbolic acid and chloral mixture is a safe and efficient application for this purpose. The intra-uterine douche, frequently applied, is of most value in the forms of infection unattended by the formation of a pseudo-membrane, but is useful also in connection with local applications. The vaginal use of the peroxide of hydrogen is useful in all forms of infection. Frequent packing of the vagina, previously dried, with iodoform gauze, is especially useful in cases attended with pseudo-membrane. Inspect infected cases daily with the speculum. Some uncomfortable surprises may thus be avoided, and the local treatment will be made understandingly.

General Medication.—Quinine in large doses twice daily; whiskey and strychnine to support the heart, if indicated; nuclein and proto-nuclein in all cases; mercurial and saline cathartics at first in all cases, then as indicated. Serum therapy to be applied in all cases when the Klebs-Loeffler bacillus or the streptococcus can be demonstrated by bacteriologic examination to be present, and also in all other cases when such examination has not been made, but in which these specific varieties of infection are probably present. Streptococcus antitoxin serum is to be used persistently to prevent pus formation and symptoms of systemic infection, even if local symptoms and high temperature persist.

HYDROGEN PEROXIDE.—At the Nov., 1899, meeting of the N. Y. State Ass'n of R. R. Surgeons, Robt. T. Morris mentioned three cases in which the continued daily use of hydrogen peroxide was dangerous on account of destroying "plastic lymph" and lessening tissue resistance — compound fractures with burrowing pus, diphtheria and septic inflammation of the appendix. He did not object to its primary use.

TO REMOVE MARKS ON SKIN.—Dr. Henry Whiting, furnishes in the *Medical Brief* the following: To remove tattoo marks or gunpowder marks: Make a mass the consistency of dough, with salicylic acid and glycerin. Apply to the tattoo marks and confine with a compress and strips of adhesive plaster for one week. Then remove the layer of epidermis over the marks and apply salicylic acid and glycerin as before. It may be necessary to repeat three times. (NOTE.—A few years ago one of our readers furnished a similar suggestion, including papain in his paste. —EDITOR AMERICAN THERAPIST.)

TUBERCULAR SYPHILIDES. — Dr. A. H. Ohmann-Dumesnil (*St. Louis Med. and Surg. Journal)* suggests the following local applications for tubercular syphilides:

℞ Acidi salicylici gr. 20 || 1
Ichthyolis oz. ½ || 15
Ung. aquae rosae oz. 1 || ad 50
M. Sig.: Apply thoroughly twice a day.

If there be objections to using an ointment, the following, which is but a type of preparations to use, will be found very efficient. It is dry, water-proof, and not easily removed by friction:

℞ Acidi salicylici.....gr. 20 || 1 | 20
Cocaini muriatis gr. 4 || |
Traumaticini or collod. flex. .oz. 1 || 25 |
M. Sig.: Paint on affected parts twice a day.

After the disappearance of the skin symptoms a bland ointment should be applied at night. An excellent one is the following.

℞ Hydrargyri chloridi mitis...dr. ½ || 6
Ung. aquae rosae oz. 1 || ad 100
M. Sig.: Apply thoroughly at night.

PHYSIOLOGY OF CIRCULATORY DISEASES.—Dr. Henry Beates, Jr., of Philadelphia, recently presented a paper on this subject before the Erie Co. (Pa.) Medical Society *(Penna. Medical Journal).* While disagreeing entirely with his premise that the penetration of the blood through the arteries and capillaries is largely due to the peristaltic action of the arteries, on account of the contained smooth muscle, we agree with his praise of digitalis derivatives, though we have not been unfortunate in the employment of the officinal Galenicals as Dr. Beates has been. He says:

Treatment consists in restoring to the circulation its lost equilibrium. Is this certainly accomplished by the administration of remedies known as cardiac stimulants? No—for these contain many active principles antagonistic the one to the other and must, therefore, as they by chance happen to contain the essential principle, either benefit or aggravate the difficulty. Clinical investigation has enabled the writer to prove that in digitalis, there exists a derivative, unfortunately known as digitalin, which does restore to the circulation equilibrium. The tests proving this were applied in those instances where digitalis, crude drug, and its still more crude official preparations, exhibited by competent clinicians, utterly failed, as did, also, strophantus, adonis vernalis, convallaria, cactus, caffeine, nitro-glycerine, in a word, the cardiac stimulants, to achieve the desired end. As digitalin is a name applied to many different principles separated from crude digitalis, it is necessary to remark, that that which accomplishes the results here indicated, is known as digitalin German, Merck. It is prepared by precipitating from an infusion a tannate, which, subsequently, is subjected to a complex process, foreign to the purposes of this contribution to detail.

This derivative administered in doses ranging from 1-10 to 1-2 grain, from four to six times daily as conditions require, accomplishes results that no other plan of drug treatment can ever approach. Particularly is its usefulness demonstrated in that range of cases in which we are taught that digitalis, crude drug, should never be administered, because of the falsely alleged great arterial tension.

Hyoscine Hydrobromate in Chorea.—Rendle (*Indian Medical Record*, Aug. 30, 1899) reports a case of chorea in a boy, aged 16, in which the hypodermic administration of hyoscine hydrobromate, gr. $^1/_{200}$ twice daily, was followed by rapid improvement. Potassium bromide, chloral and arsenic had already failed and the case seemed hopeless. The dose of the hyoscine was increased to $^1/_{100}$ of a grain three times a day. In one week the movements had almost entirely subsided. Later Fowler's solution was again given, and the patient completely recovered.

An Opium Habitué of Nine Months.—W. F. Boggess, in the *Archives of Pediatrics* for May, 1899, reports a child nine months old, small, weighing but eight or nine pounds, but bright and well nourished. Six months before coming under observation the mother had begun administering laudanum for colic. The dose administered varied from four to twenty drops, and the daily quantity was from one to two drachms. While under the influence of thedrug the infant was bright and apparently quite comfortable, but as soon as it was withdrawn there was pain and fretfulness. The drug was rapidly reduced in quantity, and was followed by a prompt recovery. The report is of interest from the fact that it is the earliest case of opium addiction on record, and the remarkable tolerance of the drug shown by so young a child.—*Medicine.*

The Medical Treatment of Movable Kidney.—Stengel (*University Medical Magazine*, Sept., 1899) outlines two plans of treatment for movable kidney. One plan is to replace the perirenal fat in cases in which emaciation has been the etiological factor, by rest and forced feeding. The other plan, to be used in the majority of the patients, is to support the kidney by a properly placed pad and bandage. A pad, to be effective, should make pressure upward, backward and towards the right. It should be soft, firm and leather-covered; its concave upper border must be one-half inch thick, and convex lower border one to one and one-half inches thick, length about three inches, and width about two and one-half inches. This pad is placed in such a position that the concave upper border faces upward and towards the right, lying a little below the line passing from the umbilicus to the superior spine, and facing upward towards the tip of the eighth rib. The bandage should be of knitted silk or cloth secured in position with perineal straps.

Treatment of Goitre.—After a discussion of the medical and surgical methods of treatment in this condition, Bouffleur *(Medicine)* concludes as follows:

1. Successful treatment depends upon accurate and early diagnosis of the nature of the goitre.

2. Struma should be treated by internal use of iodine or thyroid extract and the intraparenchymatous injection of iodoform or carbolic acid.

3. If these fail, either enucleation or partial thyroidectomy is indicated.

4. Adenoma should be treated by enucleation if the tumor is small, and by partial thyroidectomy if of large size.

5. Cysts should be treated by evacuation and injection of carbolic acid solution or idoform emulsion.

6. If this fails, they should be enucleated.

7. Sarcoma and carcinoma should be treated by complete removal of the thyroid gland, with subsequent administration of thyroid extract.

8. The treatment of exophthalmic goitre is generally unsatisfactory, and at the present time surgical measures promise the best results.

9. Undifferentiated goitre may be treated by thyroid extract and iodine, but intraparenchymatous injections, and if necessary operative treatment, should be employed early.

10. The surgical treatment of all varieties of chronic goitre is, general speaking, the most successful and most satisfactory.

ATROPINE IN DIARRHEA. — Berton has shown that rebellious cases of serious diarrhea are often favorably influenced by the following:

℞ Sulphate of atropin 09 (gr. iss)
Distilled water.....30. (fl℥i)
Sig. Give an infant from one to three drops of this solution every day.

The effect of this medicine should be watched very closely, and the dose of three drops in twenty-four hours never be exceeded.—*Sem. Med.—Pediatrics.*

MASSAGE WITH QUICKSILVER.—Rindfleisch has devised a plan by which one can massage rheumatic joints without doing them more injury than good. He takes the inflamed hand, and sinks it in a deep, wide glass, which is two-thirds full of quicksilver. The quicksilver exerts an equal pressure on every portion of the fingers, and this increases very rapidly as the fingers sink farther into it. The hand is sunk slowly into the quicksilver, and withdrawn, twenty or thirty times at one sitting. After the second sitting he was pleased to observe a marked diminution in the swelling, and in four days the joint was almost normal. This method recommends itself for wider trial.—*Med. News.*

X-RAY EFFECTS.—Dr. Geo. G. Hopkins (*Phila. Med. Journal*, Feb. 6, 1900) explains Despaigne's X-ray method of relieving the pain of cancer as due to destruction of nerves, the same cause which leads to the trophic disturbances sometimes noted after the use of this method for other purposes. Dr. Philip Mills Jones (*Phil. Med. Jour.*) and Dr. C. T. Holland (quoted from *Arch. of the Roentgen Ray*) report the successful use of the X-ray against lupus.

The above are the only therapeutic uses of the X-ray mentioned in the an exceedingly valuable symposium of 69 pages (including illustrations). Thus we are forced to the conclusion that, for the near future at least, the discovery of Roentgen will continue to be useful mainly in diagnosis and especially in surgery.

PRESCRIPTIONS.

MORELL'S ANTISEPTIC LIQUID for general antiseptic and embalming purposes is as follows:

℞ Arsenous acid..... 14 parts.
Caustic soda..... 7 parts.
Water..... 20 parts.
Carbolic acid, to render fluid after stirring opalescent.
Water..... q. s. 100 parts.
—*Medical World.*

WHOOPING COUGH:

℞ Bromoform,..... m 40
Tinct. aconite (green)..... m 50
Syr. codeine..... dr. 1½
Syr. tolu,
Syr. red poppy..... dr. 4½
Alcohol..... oz. 2½
S. Teaspoonful t. i. d., more or less, according to age.—*Med. and Surg. Bulletin.*

LANOLINE OINTMENT BASE.—From the *Monatsh. f. Dermat.* we quote:

℞ Starch..... 1 part.
Glycerine..... 14 parts.
Lanoline..... 15 parts.
White petrolatum..... 4 parts.
Dissolve the starch in the glycerine by aid of heat; then add the lanoline and petrolatum.

FOR FUNCTIONAL DYSPEPSIA in Children, Dr. A. von Grimm (N. Y. *Post-Graduate*, Sept., 1899) recommends:

℞ Pepsin. pur. gr. vii
Ac. hydrochlor. ℥ ss
Aq. dest. ℥ iii
M. Sig. A teaspoonful after each feeding.
Also,
℞ Calomel gr. 1/10
Magnes. carb. gr. v
Ft. chart, tal. No. v; Sig. one every hour.

HYPODERMIC QUININE.—Solution is facilitated by adding urethane (*Pharm. Centralhalle*), thus:

℞ Quinine hydrochloride..... 3.0
Urethane..... 1.5
Distilled water..... 3.0

FOR CHAPPED HANDS, ETC.:

℞ Acidi borici..... ℥i.
Ceræ albæ..... ℥i.
Paraffini..... ℥ii.
Olei amygdalæ expressi..... f℥ii.
M. Sig. To be thoroughly mixed and applied night and morning.—*Pa. Med. Journal.*

OINTMENT FOR GONORRHEAL RHEUMATISM.—Lemoine (*Correspondenzblatt für Schweizer Aerzte*):

℞ Salol..... 8 parts.
Menthol..... 5 parts.
Ether..... 8 parts.
Lanolin..... 60 parts.

Book Notices.

MATERIA MEDICA AND THERAPEUTICS. By F. ELLINGWOOD, M.D., Chicago, with a condensed consideration of Pharmacy and Pharmacognosy by JOHN URI LLOYD, Ph. D., of the Eclectic Medical Institute of Cincinnati. 706 pages, including the usual indexes by drugs and diseases. Chicago Medical Press Co. 1900.

There are two ways of arranging such a work, alphabetically and according to a systematic classification of drugs. The latter method has been chosen and, like every other who chooses this method, the author renders himself liable to criticism on account of the impossibility of classifying drugs satisfactorily. For instance, the chapters on "Liver Stimulants" and "Mild Stomach Tonics" include a number of articles ordinarily considered quite worthless. But who knows a reliable liver stimulant or who understands the physiology of this organ and the complicated problems of vital chemistry sufficiently to say when a liver stimulant is needed and just what function we need to stimulate?

In general, we would say that there is a lack of sharp distinction between officinal and unofficinal preparations, and that therapy is taught by symptoms rather than by information as to perverted physiologic states and pharmacologic action. But the work shows diligent study, and this return to older standards of therapeutics gives it an excuse for existence in a day when most such books differ only in arrangement and completeness.

ON THE STUDY OF THE HAND FOR INDICATIONS OF LOCAL AND GENERAL DISEASE. By EDWARD BLAKE, M.D., M.R.C.S. Second edition. London. Henry J. Glaisher, New York. G. P. Putnam's Sons. 1899. 135 pages, including bibliography and index. Illustrated. Cloth.

The American reviewer is at once struck with the virility of the colloquial style of the author, which he shares with other English writers. Thus, he speaks of the chilblain diathesis, to include Raynaud's disease, of blood bankruptcy, etc. We cannot, however, approve of placing absolute constructions with the present participle, in separate sentences. Nor do we agree with the author that "acroparaesthesia" is a less ungraceful term than "erythromelalgia." The following is a good illustration of the pithy style of the book: "Occasionally we find the palm looking like the skin of a young alligator or an old laundress"—referring to palmar hyperkeratosis.

The sites of election of gout, animal and vegetable parasites, syphilis, etc., are both described and illustrated with diagram. Much of the work is devoted to the study of sphygmographic tracings with an excursus regarding the development of cardiac and respiratory tone and the effect of respiration on pulse tension, etc. It seems to us that the sphygmograph can scarcely be trusted for clinical conclusions, and we doubt seriously whether, as claimed, respiratory gymnastics and massage to empty the abdominal pool of its surplus blood could in an hour reduce the size of a congested liver by half an inch. The book shows great ingenuity and marked powers of close observation, and the excursus mentioned is replete with valuable physiologic hints, even if one does not always agree with the author's conclusions.

SURGICAL COMPLICATIONS AND SEQUELAE OF TYPHOID FEVER. By W. W. KEEN, M.D., LL.D., Philadelphia, based on tables of 1700 cases compiled by the author and THOMPSON S. WESTCOTT, M.D., with a chapter on Ocular Complications by GEORGE E. DE SCHWEINITZ, A.M., M.D., Philadelphia. 386 pages, including appendix (The Toner Lecture, 1876) and index; 5 plates, 9 figures. W. B. Saunders; 1898. Price, $3.00.

This work is by no means confined to operations for intestinal perforation, as some might suppose from papers on that subject by various surgeons, but includes a broad consideration of the pathology

and treatment of bacterial complications of typhoid. The bibliographic references indicate through research. We learn that the bacillus disappears more than three months after burial and that, in the laboratory, it may live indefinitely. In the living body, foci of typhoid infection have remained fourteen years, while a number of cases of several years' duration are reported. No less than 28 different parts of the body are tabulated, in which the bacillus has been discovered. Fifteen cases of non-intestinal typhoid are cited. The chapter on typhoid gangrene is a revision of the Shattuck lecture delivered to the Massachusetts Medical Society in 1896. Eighty-three operations for intestinal perforation are tabulated, and the conclusion is reached that such operations are practically hopeless unless done within 24 hours. Up to this limit, the mortality is about 25 to 30 per cent. According to Murchson, 90 to 95 per cent. die if not operated on.

Careful perusal will fully repay not only the surgeon but also the physician, and not only because the latter bears the responsibility of primary consideration of the case, for or against surgical interference, but because of the broad knowledge of typhoid crystalized in this work.

THE PHYSICIAN'S BUSINESS AND FINANCIAL ADVISER, by Dr. C. R. MABEE. Published by the Continental Publishing Co., Cleveland, Ohio. 256 pages.

The first part of the book contains essentially the same papers on the question of medical advertising which were presented to the American Academy of Medicine, last spring, with due credit. The book, as any such consideration must, shows the enormous surplus of physicians over the possible demand for their services, although we hardly think that statistics would warrant the statement that there are 200,000 physicians in the United States. Farther on, the number of practicing physicians is placed at 150,000, 5 per cent. of whom are said to be specialists. It is obvious that the statistics of specialists can not be accurate. For instance, we are informed that there are 600 digestive specialists in the country. This must mean merely that there are so many quacks advertising to cure digestive diseases, along with other ailments which, in the aggregate amount to about all that human flesh can suffer. We are personally well acquainted, at least by correspondence, with almost every man in the world who has done notable work in this line, and we think it well within the truth to say that there are not thirty digestive specialists, that is, regular physicians limiting their practice to this field, in the country. We do not even know of more than a few quacks who confine their advertising to this field.

But if Dr. Mabee has not been able to secure reliable statistics on specialism, his keen perception of the ethics and business of the matter is beyond cavil. "Fully one-half of those who give up a general for a limited practice, return again to general practice. There are three reasons for this; first, they are not adapted for their work; second, they are not qualified for the work; and lastly, they *find opposition as keen in special as in general work.*" This one paragraph is worth the price of the book, to hundreds of ambitious young physicians who are anxious to get out of the world more than they are worth to it.

The book is full of nuggets of wisdom. "The worst of all charges that can be brought against any physician . . . is that of being a religious hypocrite." "Never attend your wife and family in anything but minor cases." "Never get married for prestige."

The principal value of this work is, naturally, to the young physician, and the one who has become established may be amused at some of the advice offered, forgetting that it is always addressed to the man who has his way to make in routine practice. We regret that certain passages in the book might be construed as condoning abortions, and that there

are ten or a dozen specifications of manufacturers, railways, etc., which would be excusable enough in an article for a periodical, but which are out of place in a bound volume. An appendix contains a summary of laws applicable to practice throughout the country and a statement of population, number of physicians and local requirements for each state and territory.

PARENTHOOD, Pamphlet, 27 pages.

KAREZZA, Cloth binding, 136 pages. Both by Dr. ALICE B. STOCKHAM. Published by Alice B. Stockham & Co., Chicago. Price, $1.00.

These books are well written, and while dealing frankly with the ethics of the marital relation, are not written to satisfy a morbid curiosity. However, we disagree radically with the author's teaching in regard to protracted intercourse without culmination. Such methods seem essentially onanistic and, from the physiologic as well as the moral standpoint, we condemn any attempt at artificial improvement of the sexual act.

ABOARD THE AMERICAN DUCHESS. By GEORGE L. MYERS. G. P. Putnam's Sons; 1900. Price, $1,00. 341 pages, 12 mo.

The author has introduced a new idea into detective fiction. The scene is mainly on a steamer, ostensibly a sort of floating sanitarium but carrying on each trip a few "special patients" destined to die of digitalis poisoning, so that interested relatives may inherit fortunes. The nominal hero is the captain, who carries most of the narrative in the first person, but who is represented as a rather unsophisticated young man and who is a comparatively minor personage. The heroine is a young woman whom he has previously rescued from drowning and who is one of the special patients. She is purely a lay figure in the story. The really important personages are the ship's doctor, a wily and utterly unscrupulous eclectic, skilled in social arts and in a use of digitalis of which text books give barely a hint; an English detective and one of the owners of the boat, who shines in New York society and obtains special patients. The story is well told and is exciting. It deals with improbabilities, of which the greatest is the success of the detective with his various disguises, but there is only one author who has gained success from writing of the eminently conventional and commonplace and he seems to have succeeded more from sheer perseverance than from any demand for literature that lays before us the kind of life that we are actually living in.

The author is thoroughly in touch with the esprit de corps of the medical profession, and his allusions to eclecticism, quackery, etc., will do more good than a dozen elaborate articles coming from the profession itself. Barring the feature of the "special patients," the idea of running a large vessel somewhat on the lines of a private yacht, is an excellent one and we hope that some company will put it into practice. Such a scheme would involve the usual attendants and equipment of a sanitarium, and the boats, instead of being merely transatlantic ferries, with scheduled times of departure and arrival, would cruise for a month or two, stopping briefly at a few Mediterranean ports and, perhaps, at one or two French and English ports as a matter of convenience to passengers. Even the "special patient" idea has its obvious advantages, if we could select the victims from non-mercenary motives.

We believe we are violating no confidence in saying that the author, under his real name, has written considerable valuable matter, especially in the way of social science and that he frequently contributes such articles to medical journals, though not himself a physician. Thus, we have another example of what is beginning to gain recognition, that a man may render good service both in serious lines of thought and in the lighter vein of fiction.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

*TREATMENT OF DELIRIUM TREMENS AND ALCOHOLIC EXCITEMENT.**

By CHAS. G. STOCKTON, M.D., Buffalo, N.Y.,
Professor of Practice of Medicine, Medical Department University of Buffalo.

It is not necessary to take up the family history of this patient, although it should be understood in every case in actual practice. You see before you a remarkably well developed colored man, aged thirty-two, a man with magnificent chest and limbs and of great physical strength. He is a cook on a propellor. He has enjoyed reasonable health, except when disturbed by alcoholic excesses. Recently he became frenzied and was brought to the hospital in a highly excited condition so that it was necessary to put him in restraint, a measure which when brought to bear upon a man of highly developed muscular system is no trifling matter. Restraint is or is not a severe measure depending upon the degree of excitement and also upon the degree of muscular strength which the patient has, including in that the strength of the heart. This man's heart is not very strong, yet his muscles have tremendous development. After putting him in restraint the attempt was made to keep him quiet by relieving the brain irritation and resulting delirium, which had been produced both by the immediate effect of the alcohol and the remote result of the habit.

Delirium and insanity are similar states, but the former is due to a transient change in the brain, the latter to a lasting disease of the brain. The former is more nearly a functional disturbance, the latter more of an organic disease. The two conditions, however, merge into each other, and they cannot always be differentiated.

Let us analyse the conditions existing in delirium. A man thus affected behaves improperly, not because of any inherent badness, but because he is reasoning from the false impressions that come to him. He is doing just what he would do if those impressions came to him in real life. How is it that a man gets these false ideas into his head? One of the causes is what we know as illusion. An illusion is a condition in which impressions brought to the brain of what the eye sees, the hand feels, the ear hears, or the mouth tastes, come to the brain laden with an added and unnatural message. For instance, instead of seeing a man's hand before the face, the sensation which is carried to the brain from the organ of vision is, possibly, that the hand is a fiend or a dragon or some other unusual and unaccountable thing. A certain victim of delirium tremens had an idea that all the knot-holes and nail-heads which he could see in his room—which had a board-ceiling—were serpents, and he was quite as anxious about them as if they had been real; now in order to dispel this illusion, his attendants pasted bits of white paper over the nail-heads and knot-holes, and for a time the patient was satisfied, saying that the serpents had gone; but presently his illusion changed and he thought that the white spots were white monkeys.

Another cause for the unsound beliefs held by persons in delirium is a disturbance of cerebration which we call hallucination. In hallucinations persons hear sounds, see and feel things which have

* Clinical Lecture at Buffalo General Hospital.

no real existence. Now, the false conclusions that are drawn from illusions or hallucinations are called delusions. It is a delusion when a man believes himself to be his own creator, for instance. I remember at one time having charge of a powerful colored man, who became very greatly disturbed from a religious excitement, so much so that he was put into a cell. I never saw so wild a man, and his magnificent physique made it all the more difficult to restrain him. He believed himself to be the Immaculate Savior, and his acts were of a very curious kind. He had a melodramatic way of speaking to people and at times he would go off into a state of mental excitement, uttering imprecations. Again he would pass into a cataleptic state, in which he would place his feet against one wall of his cell and his head against the opposite wall, and it is no exaggeration to say that he would support himself in this position for an hour, without having suffered any apparent harm. He also had hallucinations. He suffered from the wildest kind of delirium, probably of hysterical origin.

When individuals are so placed that they have illusions, hallucinations and delusions, do you not see how easily they tend to become very greatly excited? Persons are doing them violent injury, they are attacked by enemies, they see with them strange creatures, they think themselves to be supernatural beings, or they are placed in curious positions, and they but act logically from the standpoint of their mental states. So a man who is delirious or insane is not to be abused or treated as if he was possessed of devils, although it is not many years since that idea was believed even in this country.

Our patient was excited, he tried to escape, and he doubtless thought he was being injured by the remedies given him. Anything forced into his mouth was ejected; that was not because he was bad, but because he had the idea that enemies about him were trying to choke him and to poison him. What are you to do with a man in this condition? This patient, you might say, was suffering from delirium tremens and after a time he would get over it; but such patients do not always recover, and if this man had not fallen into the hands of friends he would have done himself some injury. It is not right simply to catch a delirium tremens patient and confine him in a strait jacket and wait for him to recover from his condition. Medicines must be given.

In the acute stage of delirium tremens, the brain is congested as well as very much irritated by the alcohol. Therefore the blood must be withdrawn from the brain and the alcohol removed from the body. Derivatives are indicated, and a purgative is a good thing to give in the beginning. Next, it is well to get an action from the kidneys and the skin, and while you are waiting for these effects, you must give some brain sedative so that the man will have no longer the intense brain irritation which will wear out the tissues. What brain sedative will you give? Bromide of potassium and chloral are the common and very reliable remedies in this condition. What dose? That depends upon a number of conditions, the size of the patient, the sex, the strength of the heart, the degree of excitement. With a large man, who has a strong heart and who is very violent and suffering from so acute a delirium, to control him you would doubtless have to give thirty grains of chloral and one or two drachms of bromide at a dose. You would probably have to repeat this in two hours. You would not give anything like that dose to a small nervous woman with a milder form of delirium. Half the dose would be sufficient in such a case. If the repetition of the dose in two hours did not quiet the patient, it could be again repeated in two hours, and if the heart began to fail under the chloral, digitalis could be given either hypodermically or by the mouth. You might continue these remedies in moderate doses, or some other sedative like a mixture of hyoscyamus and camphor, or

hyoscyamus, camphor and opium, or a variety of other combinations. Shall you give whisky? Now, gentlemen, the best thing to do for a man suffering from alcohol is to get the alcohol out of his system, especially in an acute case. When a man is suffering from another form of delirium tremens, known as Mania a Potu, which comes from the sudden withdrawal of alcohol, it is rational to give small and decreasing doses of alcohol till the man comes out of the condition.

You must remember that there is a great degree of depression after delirium tremens. You have withdrawn from the patient an enormous stimulant in the alcohol which you have taken away. Therefore the man must have stimulants, but not whisky. One of the best and safest immediate stimulants is beef tea. It is not a good nutriment, a person will starve on it, but you can stimulate him with it. Use capsicum freely as a condiment. Diffusible stimulants like Hoffman's anodyne, or strychnine, digitalis, nitroglycerine, etc., may also be administered. This man would not take stimulants, he would not allow a rectal injection to be made, what could be done? One of the means used to move his bowels was quite ingenious though not at all original. When a person will not take a purgative by the mouth and it is necessary to administer it in some way, it may usually be given by the rectum. Not merely an injection of salts or castor oil can be given, but you may use the vegetable purgatives in about double the ordinary dose, carried far up into the bowel and discharged there. This man would not take this purgative in that way, and so it occurred to the house-physician to give him a hypodermic injection of aloin. He gave half a grain and the result was a free evacuation of the bowels in two hours. Aloin used in this way as a hypodermic injection is perfectly safe, provided you have a pure preparation of the drug. Other vegetable purgatives may be thus administered, and even magnesium sulphate may be injected hypodermically, using a solution of the chemically pure salt.

No sedative could be given to the man in the ordinary way, and so hypodermic medication was given again resorted to. The hydrobromate of hyoscine was administered in the dose of one-hundreth of a grain, repeated in an hour and again after two hours. This drug is a powerful hypnotic, and this patient slept serenely after this medication. The pulse and respirations are also stimulated by this drug. Eight to twelve hours' or even a longer sleep may be induced by its use. Our patient awoke clear in his mind and he has been so ever since. He is now able to take nourishment and medicine. His heart is weak, the natural condition of an alcoholic heart, but the sounds are normal.

You will say: "If the hydrobromate of hyoscine is such a beautiful hypnotic, why not give it to those who have insomnia from a variety of causes? There is nothing more painful than the wakefulness of phthisis, why not give the hydrobromate of hyoscine to consumptives?" Because it is one of those drugs which give relief at a great expense of tissue and disturbance of innervation. The patient is made quiet but is exhausted by the drug. In the insane it is found wise to give these drugs at intervals rather than to permit the maniacal excitement which would otherwise occur, but it must be borne in mind that one evil is largely offset by another. When the delirium is a temporary one and the excitement must be controlled, it is proper treatment to use these drugs. My opinion is that they should always be administered hypodermically. The effects when given in that way are better, more accurate, and a smaller quantity is introduced into the system.

ALCOHOLIC EXCITEMENT.

Here is a man who entered the hospital suffering from alcoholic excitement, yet he has never been delirious. He has carried on the habit to the extent of having

distress, sleeplessness and tremor, but the psychical phenomena have never amounted to delirium tremens. He has drunk mostly beer; but a man may get delirium tremens from drinking beer, particularly fortified beer, of which a good deal is manufactured. He complains of weakened digestion, tremor, sleeplessness and prostration. The weakness is a notable symptom, it occurs not only from the effect of alcohol, but from want of food. Even if food is taken, it is not properly digested and assimilated. The first and most important thing to do in the treatment of the alcoholic habit and in the treatment of those suffering from acute alcoholism is to give nourishment. Alcohol to replace nourishment is improper treatment. This man, like a great many others having the alcohol habit, is excited, starved, his muscles are soft, his circulation retarded, and his hands tremulous, has moreover a sciatica which will not disappear till the nutrition is improved. It may pass off then, or it may remain. If it does not pass off, I shall look for alcoholic paralysis, which is a result of neuritis. The treatment should consist in the administration of tonics and foods. The absolute withdrawal of alcohol I consider imperative in this as in most other cases. The bowels must be kept open and an abundance of pure water given. His sleep must be secured every night, by a sedative if necessary.

MERCUROL IN INFECTIOUS DISEASES.—Dr. W. A. Alger, of Detroit, contributes a record of twelve cases (including stricture of the lower canalicus of the right eye, trachoma, gonorrheal ophthalmia, acute conjunctivitis, specific ulcer of the tongue, abscess of the auditory canal, suppuration of the middle ear), in all of which the use of mercurol in 2 and 4 per cent. solution was followed by rapid improvement and cure. Mercurol is a true chemical compound of nuclein with mercury, described in the Sept., 1899, issue of the AMERICAN THERAPIST. Dr. Alger's article is published in the *Intern. Jour. of Surgery*, March, 1900.

CONSERVATIVE TREATMENT OF TUBERCULAR JOINTS, WITH REPORT OF A CASE.

By J. C. MURPHY, M.D., St. Louis, Mo.

The treatment of tubercular joints is a subject that has interested me a great deal of late, as it has been my fortune to have had a number of cases. We are all aware of the present tendency of many surgeons to resort to radical operative procedure at once, thereby despoiling many victims of portions of their economy that might have been made whole or at least serviceable by less radical measures. To be sure it takes more patience and a longer course of treatment to arrive at results, but I have yet to see the individual who would not rather submit to a prolonged treatment where there was some hope of ultimately having restored to him the use of some valuable part of his anatomy.

Of course I am not so rash as to hold that conservative measures will be victorious in every instance, but I do hold that it is the duty of the physician and surgeon to have some thought for the future of his patients, and wherever it is possible they should permit them to go through life as God intended they should, whole and vigorous and able to take their place on life's battle field and fight the fight with some hope of victory. This is specially true of children and young people in the period of development, as you know the process of regeneration and repair goes on with great vigor in the young if it is but given half a chance. Our free institutions the country over are filled with maimed and useless humanity, many of whom no doubt were brought to their present helpless condition by the ever ready keen edged knife of the surgeon, who sometimes cuts "not wisely but too well."

It is not my intention to detail the various modes of treatment in this affection, but to dwell specially on the plan that has given the best results in my own practice.

The case that I shall bring to your notice is that of Pierre G., aged 11 years, white, family history negative. I saw this boy first in May, 1897. I got the following history from his mother: About six weeks before he had come to her complaining of pain in the right shoulder. On examination she found the joint much swollen and the boy complained of much pain on pressure. I might add here that the mother of this boy had always boasted that she never had a doctor for any of her children, but had been both mother and doctor combined. So following out her usual custom she began treating her son herself, using tincture of iodine, counter irritation, etc.

In spite of her efforts the boy got no better, so at the earnest request of her family a physician was called. A very estimable medical gentleman was called who immediately made a diagnosis of rheumatism, and treated the case along that line for several weeks, also aided by the well meaning but poorly informed mother, who was loath to relinquish her interest in the case. The boy grew worse, emaciating rapidly, having fever, night sweats, etc. At this stage I was called. On examination I found the shoulder much enlarged. In fact, the whole arm down to the shoulder joint was about three times its normal size. A large accumulation of pus had burrowed down from the shoulder to the elbow. The temperature was 103° F., his lymphatics were swollen, and in fact he presented a complete picture of sepsis. I made a diagnosis of arthritis, probably of tubercular nature, and I advised immediate evacuation of the pus.

The boy admitted to me that he had fallen from a seat in a circus and injured himself in that way. By dint of much persuasion the mother finally consented to my opening the abscess. The patient was anesthetized and the parts thoroughly scrubbed and the abscess opened. It was found to contain considerable pus, small fragments of loose bone and broken down muscular tissue. The gentleman associated with me concurred in the diagnosis, but to make assurance doubly sure, a microscopic examination was made later, and the bacilli found in abundance. After the abscess was opened, the sinuses and cavity were thoroughly irrigated with hot bichloride solution and hydrozone and packed with iodoform gauze.

The subsequent treatment and the treatment to which I owe the good results was continued in the administration of general tonics, especially syr. iodide of iron, and locally the injection of 10 per cent. iodoform emulsion in glycerine, both into the sinuses and parenchymatously into the muscular structure surrounding the point. The sinuses were thoroughly cleansed before the injections are made. The injections were repeated about twice a week. I wish to say that I used no immobilization dressing on the arm, but permitted the boy to use his arm as much as he choose, and I think it is owing to this fact that I did not get ankylosis of the joint.

As soon as the treatment was begun, the boy commenced to improve, the fever disappeared, night sweats ceased, appetite returned, the shoulder regained its normal size and contour, and in fact he made a perfect recovery with complete use of the arm. To-day, over two years and a half later, he is a healthy, happy boy with naught to remind him of the fact that he was once a sufferer from the most dread disease know to man. I have had equally good results in other cases of a like character, but I choose this as the most striking illustration of results sometimes attained by conservative measures.

In Treating Syphilis, where there is considerable malaise and anemia, Dr. J. D. Thomas (*Intern. Med. Mag.*, Oct., 1899) prescribes:

R Hydrarg. protoiod. gr. v—x
Strych. sulph. gr. ss
Ferri sulph. gr. xx
Pepsin. pulv. gr. xl
M. Ft. in capsul. No. XX.
S. One capsule after each meal.

*MALT COFFEE (or MALT INFUSION) AS AN INFANT FOOD.**

By M. R. Morden, M.D., Adrian, Mich.

There are two reasons for my now calling attention to the subject just named.

1st. I have never read anything on the subject or heard anything from a professional source.

2d. Although my information comes from very humble sources, it is of a very positive and valuable character, and I would like to give my brethren a chance either to corroborate or else deny the claims which I desire to put forth for malt coffee as an infant food.

Very young babies, all over our country, are dying in large numbers every year of inanition, in spite of all the doctors and nurses and abundance of foods.

I know from actual experience and observation that no one food or class of foods will save all, or even a half of this dreadful mortality, but I feel very certain that malt coffee has saved several who would otherwise have perished.

I know of no better way of presenting my subject than by relating my first experience in its use.

During a very hot summer, about 20 years ago, I called one evening to make what I then thought would be my last call on an infant patient, whom I had been attending for several weeks. The child was about 4 months old, strong at its birth, and the parents strong, vigorous Germans. The parents were very warm friends of mine. It was the old story. I had kept the child in a nice large cool room. Bathing and proper watching had been observed. The various ways of using milk, and peptonized wheys, and the various infant foods had all been tried. All expedients available had been tried. The mother had no milk and a wet nurse could not be found. I had raised two boys by artificial feeding and did not lack knowledge for the management of such a case, or at least thought I did not.

As I left I shook hands with the weeping parents and told them that if their babe was alive in the morning to so inform me. The child was evidently in a dying condition, but we had some hope of securing a wet nurse. The child looked pinched, was pulseless, had watery discharges, had nervous twitchings, retained no foods, and for several days we had abandoned all medicines, except digestives.

When morning came, I did not give them an opportunity of calling me, for passing that way I called early on them. To my great surprise a very remarkable change had taken place, and I found the child looking like living instead of dying. Supposing that the last food tried (peptonized whey) was the agent of rescue, I told them to make no change.

Not wishing to hurt my feeling the parents now told me, in a kind way, what they had done. At the suggestion of a family friend they had the evening before begun the use of malt coffee. I asked to see the nutrient, and a vile looking brew it was. I was loaded with prejudice at once, but concluded to be discreet.

I called again that day and the next day. The child grew strong and well, with no medicine and no other food than pure infusion of roasted malt until old enough for solid food. He is to-day one of the finest and strongest young men in our town. I shortly after this used it in other cases and I soon became an advocate of the use of malt infusion in all suitable cases, and I have the following conclusions to report:

(1) Malt coffee well merits a high standing as an infant food.

(2) It surely will succeed in many cases when all preparations of milk, pure or with digestives, have failed.

(3) All the children raised on it, so far as I have observed, have grown up strong and with good digestion.

(4) It will sometimes succeed best as a

* Read before the Northern Tri-State Medical Association at Adrian, Mich., Jan. 16, 1900.

pure strong infusion, and in other cases will do better when diluted 10 or 25 per cent. with milk.

(5) It is probably better to give it from a bottle warmed, though many children 4 to 8 months old will take it tepid or fairly cool without harm.

(6) Some mothers prepare it 2 or 3 times a day, and some only once a day.

(7) Children are exceedingly fond of it where it agrees well, and have lively spirits after each feeding.

(8) I have always given the milk preparations first trial and malt coffee next before resorting to so called infant foods.

(9) I have known malt coffee when thus tried in a few cases not to do so well as milk preparations, and have gone back to milk.

(10) In far a greater number of cases where the child did not do well on milk, it soon revived and grew strong from the use of the malt coffee.

Some mothers prepare the infusion with great care, others simply make a strong infusion and pour off into a pitcher and use as may seem to be needed.

I advise pure, good, sound malt from a reliable brewer, carefully roasted and put away in fruit cans. Then use three or four tablespoonfuls to each pint of hot water, steep 20 to 30 minutes. Some steep much longer.

The nutrients of malt infusion consist of maltose, dextrine, diastase, and other albuminoids, with a small amount of the barley salts. Some mothers prefer the infusion plain, others add small quantities of milk and sugar.

While I consider the healthy breast milk the best of all foods, and cow's milk properly prepared the next best, I feel confident that malt infusions are a close third, and will often supercede milk to great advantage.

In Sporadic Dysentery I have frequently found the following productive of happy effects:

℞ Pulv. ipecac. et opii 2.0
Bismuth. subnitr. 16.0
Salol..... 2.0
M. et ft. chart. No. xij.
Sig. One every hour or two.—J. M. Anders.

*ASPIRIN, THE NEW ANTIRHEUMATIC.**

By Dr. E. Roelig.

According to the views at present prevailing acute articular rheumatism is an acute infectious disease, although it has not yet been possible to demonstrate positively the specific morbific agent. All the clinical and anatomical features of the disease, however, point in this direction, as for instance its epidemic and endemic occurrences. It always presents a typical clinical picture, and shows no immunity as to sex or age, although young people from 15 to 35 years seem to be most commonly affected.

Of the specific remedies hitherto recommended for this painful and widely spread disease, such as sodium salicylate, most of them manifest the disagreeable property of provoking by-effects during prolonged use, so that even in moderately sensitive persons these preparations have to be discontinued even when their continued employment is indicated on account of the character of the disease or a recurrence. In a large number of instances where patients have been treated for some time with salicylic acid, and have experienced its unpleasant effects, there is present so marked a repugnance towards this drug that in case of a return of the rheumatism, as has repeatedly happened in my practice, they have expressed the desire that I would not again prescribe the salicylate, as they were absolutely unable to take it any further.

Recently a preparation known as aspirin has been introduced, which must be regarded as a fortunate therapeutic advance in articular rheumatism. It is not my intention to discuss the chemical properties of this product, and I would only briefly mention that aspirin is a white odorless powder of slight acidulous but not unpleasant taste, which is soluble only to a

* *Deutsche Medicinische Wochenschrift*, February 1, 1900. Translation original, and published by request, in the American Therapist.

limited extent in aqueous fluids (wine, milk, coffee), and hence is best prescribed in wafers. In contrast to the other salicylates previously in use, aspirin does not produce any irritation of the gastric mucous membrane, such as eructations, loss of appetite, nausea, and vomiting, but passes unchanged through the stomach and is split up in the alkaline secretion of the intestine, where it undergoes absorption. To prevent any premature decomposition the simultaneous administration of alkalies, such as bicarbonate of soda and alkaline mineral waters, should be avoided.

The above described action of this drug has been investigated by several authors, and I am able to completely confirm their observations. In none of my cases were concomitant effects observed, even during the use of large doses. On the other hand, the favorable influence of the drug and the often surprisingly prompt curative effect were unmistakenly. The longer I have employed aspirin the more advantageous has appeared to me its action in the treatment of rheumatic affections. I have employed the remedy since about six months, and during this time I have treated 31 patients. A few detailed cases are subjoined here in order to illustrate its efficiency.

The first was that of a man 28 years old, who complained of darting pains in both knee joints, especially the left. The joints were somewhat swollen, reddened, edematous, and tender to the touch, and flexion was impossible. Temperature at the time of my first visit 39.3° C; pulse 110. Diagnosis: acute articular rheumatism. Aspirin 1.0 gm. was administered every two hours, and hot salt water applications made to the affected joints. On the following morning I was surprised to find the patient in a much better condition; the pains had considerably subsided; the temperature was 37.9° C; pulse 90; the joints still swollen and reddened, but less sensitive to pressure. Five powders had been administered but without producing the least gastric disturbance or tinnitus. During this day and the following two days 8.0 gm. aspirin were given. The pains diminished, and on the fifth day had entirely disappeared. The drug was now discontinued and poultices and liniments ordered; on the tenth day he was able to walk, and on the 16th day returned to work.

Another, Mrs. R., 37 years old, who had never suffered from rheumatism, was suddenly attacked with intense shooting pains in the right ankle and knee joints. On the following day the joints were reddened, moderately swollen, and extremely sensitive to the touch and on movements. Temperature 39.6° C.; pulse 116. Aspirin was prescribed in 1.0 gm. doses; the second dose after the lapse of an hour, and the succeeding ones every two hours, until five grams had been taken; and also moist warm compresses used. On the following day there was an improvement of the general condition; the pains had considerably diminished and were only perceptible on pressure and movements; temperature 38° C.; pulse 90; joints less reddened. Aspirin was continued in daily doses of 3 gm. for three days more, with gradual disappearance of the pains and increase of mobility. On the 8th day the drug could be discontinued, and the treatment restricted to the use of embrocations, light massage and moist compresses. After three weeks complete recovery. Even in this case, a somewhat anemic and delicate woman, who had previously been treated by me for gastric disorder, the powder was well tolerated, 18 gm. being given in seven days. It was usually administered in wafers or mixed with sugar. As in the previous case it never produced sweating.

In a mild case of acute articular rheumatism of the right wrist and shoulder joints, with a moderate swelling, and some loss of mobility, ten powders of 1 gm. each, aspirin, given during three days, caused a rapid alleviation of the shooting pains in the joints. On the fourth day the

patient was able to lift her arm, and under the simultaneous use of salt baths and embrocations was able to resume work on the 12th day.

Another case was very instructive as showing the manner of action of aspirin. The patient, a man, forty years old, addicted to the excessive use of beer, had been treated by me on three previous occasions for violent attacks of acute articular rheumatism, usually affecting his ankle and knee joints. Sodium salicylate which had been formerly administered produced loss of appetite, tinnitus, and especially sweating. During his third attack I dispensed with the salicylate at his request, and resorted to the use of salophen, which acted equally efficiently although more slowly. In his last rheumatic seizure, which affected both ankle joints, I resorted to aspirin, giving six powders of 1 gm. each during the first day. This was followed by a considerable diminution of the pains, redness and swelling. The dose was gradually reduced, and the drug could be discontinued. During 12 days he had taken the considerable quantity of 43 gm. of aspirin; and although the salicylate of sodium was badly tolerated, the favorable action of aspirin was most strickingly exhibited. There was a total absence of any after-effects; the appetite remained good, and there was no tinnitus, sweats nor cardiac disturbances. On the other hand, the temperature, swelling and pains were favorable influenced. The patient was not able to resume work for five weeks, but was free from pains during the entire period. In the after treatment foot baths, bandaging, etc., proved of service.

Several similar cases of acute articular rheumatism of a mild form were benefited by aspirin, which failed to produce any disturbances of the digestion and nervous system. That this remedy can be employed with advantage in young persons is well illustrated by the following cases:

F. O., 12 years old, suffering from acute articular rheumatism, received 0.5 gm. aspirin four times daily in a teaspoonful of raspbery juice. He took it willingly; felt better on the following day; then took two more powders (in connection with hot compresses); and on the next two days one powder. On the fifth day he was able to rise, and on the 8th day was able to leave his bed. There was no vomiting, loss of appetite, nor tinnitus.

In a sickly girl, five years old, in whom rheumatism was suspected, I ordered $^1/_2$ gram of aspirin every three hours, enveloped in finely scraped apple, because she refused to take it in milk. It was administered in the same manner during the following four days in doses of 1.5 gm. daily with the result that the swelling diminished, the temperature returned to normal, the pains ceased, and mobility was gradually restored to the affected arm. Hence aspirin can be readily employed in children; although in the younger ones care must be taken to cover the taste and to give it in fractional doses, although I am convinced that it may be administered in large doses without any disturbance of the appetite.

Owing to the fact that aspirin splits up into its components in the organism, I also made use of it in a few other affections in which it is customary to use pure salicylic acid or salol. In the case of a woman 78 years old, who had suffered for many years from severe vesical catarrh in consequence of a calculus which could not be removed on account of her advanced age, aspirin, administered in doses of 3.0 gm. daily, improved her condition. According to her statements she was able to sleep better at night; the urine cleared up and lost some of its disagreeable odor, and the tenesmus was less marked and troublesome. I am unable to say whether in this case auto-suggestion played a part; but as it is not inconceivable that the drug exerted the above effect I shall further test its action in diseases of the bladder.

In two cases of sciatica, both of the right side, I also tried aspirin in place of other analgesics. The first was a man,

42 years old, suffering from severe pains in the foot. I ordered rest, application of heat, regulation of stools, and diet; applied wet-cupping, and also prescribed 4.0 gm. aspirin the first day, and 3.0 gm. the second. The pains soon subsided, and the cure was completed by baths and massage. Of course, it is not possible to say in how far the drug contributed to his relief, although the patient believes that it was chiefly concerned in allaying the pains.

The second patient with sciatica was a nervous woman, 45 years old, who had a susceptibility to sweating. After trying aspirin she asserted that one-half hour after taking a powder she was seized with such a profuse sweat as to necessitate changing her clothes. The same phenomenon was repeated on the fourth day, when she took two of the powders, requiring their discontinuance in the future. There were, however, no disturbances, such as gastric disorters, tinnitus and the like. This is the only one among the 31 cases in which I was able to convince myself that profuse sweating occurred after the use of the drug. As above stated the patient was inclined to sweating, and this may be an instance of a certain idiosyncrasy.

In the affections designated by the name of muscular rheumatism, such as lumbago, wry-neck, and rheumatism of the intercostal muscles, aspirin has rendered me valuable service. In a series of such cases the administration of 2 to 3 grams often afforded relief of the pains when employed in connection with baths, hot compresses, embrocations, etc. None of the patients complained of any unpleasant after-effects. In a case of inter-intercostal neuralgia which at first simulated pleurisy, I also tested aspirin, but only obtained moderate results from doses of 5 gm. daily, and in consequence of the severe pains had to resort to other more radical measures.

In analyzing the results derived from the use of aspirin in the 31 cases in which all other internal medication was avoided, I must confess that aspirin has proved a most serviceable remedy in the treatment of rheumatic affections, acting both promptly and reliably in many cases. It relieves the pains and diminishes the swelling and fever, and possesses the well-established, and to a certain extent specific properties of salicylic acid, without the unpleasant and injurious effects of this drug. I am further able to maintain that aspirin reduces the duration of the disease, because it can be administered continuously. Unlike salicylate of sodium its administration need not be interrupted in consequence of a disagreeable taste or after-effects. This constitutes the chief advantage of aspirin; and when it has become generally known to the medical profession it will, in my opinion, attain a permanent position in our materia medica in place of the other customary salicylic acid preparations.

The Local Use of Formalin in the Treatment of Atrophic Rhinitis, Etc.—*The Laryngoscope* abstracts the following from a report by A. Bronner in *Journ. Laryn. Rhin. et Otol.* (Oct., 1899):

The first indication in this affection is to thoroughly cleanse the cavities and remove the inspissated crusts. The second indication was to alter the nature of the secretions of the mucous membrane, and thus prevent the accumulation of dried secretion.

For this purpose the author orders an alkaline lotion to be used with a Higgenson's enema syringe. If there are any patches of hypertrophied ttssue, these are removed with the galvano-cautery or trichloracetic acid.

He employs in bad cases a 1 to 1,000 to 1 to 2,000 solution of liquid formalin with water, to be used with a small nasal syringe, or a 1 to 500 to 1 to 1,000 solution with a little glycerine added, to be applied with a coarse spray, three or four times daily. Formalin seems to have a powerful effect upon the glandular tissues. In his experience the maxillary antrum was affected in about 25 to 30 per cent. of cases.

*THE USE OF CALOMEL IN DIPHTHERIA.**

By T. D. Coleman, M.D., Augusta, Ga.

My experience for the past nine years with the use of calomel in the treatment of diphtheria corroborates so perfectly the position taken by my friend, Dr. Judd, in his admirable paper, that I am very glad to have the opportunity of adding my testimony to what he has said. My father, Dr. John S. Coleman, toward the latter years of his life, used the mercury treatment for diphtheria with such signal success that I could not fail to see the virtue of it.

In a paper which appeared in the *Journal of the American Medical Association* of February 23, 1899, he records some experiences in the use of bichloride of mercury in this disorder. In one case he gave a child, sixteen months old, nine grains of bichloride in three days, with the result that at the end of that time the child expelled a membrane containing the impression of six tracheal rings—complete recovery following.

Latterly he gave up the use of bichloride for the subchloride, or calomel, for the reason that the bichloride tendered to irritate the stomach. In one case which I now recall he gave the five-year-old son of a physician 360 grains of calomel in there days, complete recovery following. The boy is now a robust lad of fifteen years. In all his experience with mercury in the treatment of diphtheria, he lost only one case, and this case he was called to only after other remedies had failed, and only twelve hours before the child died.

My own experience in the treatment of the disease has been similar and equally gratifying. In an experience extending over nine years I have only one death to record where this treatment was employed, and this case was most malignant from the start, the membrane involving the nose, pharynx and trachea.

My rule in these cases is to give a large dose of calomel at the beginning, regulating it according to the age, and then to give hourly doses until the characteristic "chop-spinach" movements appear, then the interval is increased until the drug is left off entirely.

I cannot add anything to Dr. Judd's directions for administering the drug, as I consider that they are sufficiently full to guide one. With reference to certain indefinable fears of ill-effects from the drug when given in such heroic doses, I can only say that the ability of patients to take such large doses without ill effects, is, in my opinion, due to the fact that the ordinary physiologic effect of the drug is overcome by the poison or toxin of the disease.

I wish to say in conclusion that I do not believe it produces anemia, because I believe that the disease itself does this profoundly, and any drug which so certainly cuts the disease short, would by that much prevent those blood changes which are responsible for the anemia. Furthermore, I have never seen any disagreeable effect whatever resulting from the administration of the drug, and I have gotten such universally good results from its use that I have been unwilling to relinquish it for newer and more sensational remedies.

* Remarks made during discussion of Dr. L. D. Judd's paper of this title before the American Climatological Association, at its meeting in New York, in June, 1899.—Reprinted from the *nternational Medical Magazine*, October, 1899.

Antipyrin with Salicylates.—Dr. A. MacFarlane, of Albany, writing to the *Albany Medical Annals* (Oct. 1899) from Halle, Germany, describes his visit to the Hospital at Leipsic, in the course of which he "was struck by the fact that antipyrin was administered in rheumatism with the salicylates, and when I asked Prof. Romberg about its effect on the heart, he replied that he had never seen any bad effect."

Salipyrin, which is the staple compound of antipyrin and salicylic acid, has long been very popular in Europe, and is also used extensively in this country, many reports attesting its efficiency and safety.

Progress in Medical Science.

OPHTHALMOLOGY.

By R. H. Satterly, M.D., Buffalo, N. Y.

At a meeting of the Section of Ophthalmology of the College of Physicians of Philadelphia a case was described of traumatic varix of the orbit in which ligation of the left common carotid was successfully performed. The varix probably had its inception when the patient was 4 years of age, by an injury. There was swelling of the lids, edema of the conjunctiva, almost complete immobility of the globe, and engorgement of the retinal veins. A temporal bruit could be heard. Pressure on the left common carotid relieved the venous stasis in the iris and orbit. Ligation of the vessels was made, resulting in immediate cessation of most of the symptoms. Five months later the eye was blind from glaucoma, but the earlier symptoms had disappeared.

T. D. Myers, M.D., in the *Ophthalmic Record*, describes his treatment of granular disease of the eye lids by electrolysis. He calls attention to the fact that astringents may injure the tissue without destroying the bacteria, and that such treatment cannot interfere with the process of over-stimulation taking place in fixed tissue cells. He uses a very delicate platinum electrode, with which he pierces the epithelium without destroying it, and this enables him to follow the supply vessel of a granulation to its source and coagulate the albuminoid nourishment at the fountain head. He uses a battery of thirty ordinary ammonia cells.

Carra, in his ophthalmic clinic in Rome, uses the following for blepharitis marginalis:

℞ Antimonii sulph..... ʒ ss
Lanolini..... ʒ ij
Vaselini flav..... ʒ j

M. Ft. unguentum. Sig. Rub a little on the border of the lids at night. Wash off with warm water and a bit of gauze in the morning.

Bilateral Iritis of Malarial Origin.—At the Congress of Ophthalmology M. Pechin remarked that malarial lesion seldom attacked the iris. He had, however, observed a case of bilateral iritis occurring in the right eye during a first attack of intermittent fever and in the left eye five or six years later during a second attack. The patient was a woman, forty-eight years of age. There were no specific antecedents. During the course of the illness, which was of the tertian variety, the right eye became red. Five years later the patient suffered from another attack. The disease lasted eight days. The malarial cachexia lasted eight years, and the left eye was invaded in its turn. At present there are complete synechia on the right side and pupillary exudates upon the left. There are no deep lesions. The occurrence of the ocular phenomena during malarial attacks warrants the statement as regards etiology.—*Le Progres Medical.*

Beta-Eucain as an Anesthetic in Eye, Nose, and Throat Work.—Dr. W. H. Poole, of Detroit, contributed a very careful and exhaustive review of the properties of beta-eucain to the Surgical Section of the Miss. Valley Medical Association, Oct. 6, 1899, proving to his own satisfaction that it is superior in every direction to cocain in eye, nose, and throat work. From his very instructive paper, published complete in *The Medical News*, Oct. 21, 1899, we quote the following

Conclusions.—1. Eucain is decidedly less toxic than cocain, therefore superior to it.

2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug.

3. It produces anesthesia equally well and sometimes better than cocain.

4. It is superior to cocain in that it does not cause heart depression or other unpleasant effects.

5. It does not cause mydriasis or disturbances of accomodation, which is an advantage in some cases.

6. It is less dangerous to the cornea than cocain inasmuch as it does not cause desquamation of the superficial epithelium.

*THE USES AND DANGERS OF ATROPIN IN THE TREATMENT OF DISEASES OF THE EYE.**

By EDWARD S. LAUDER, M.D., C.M.,
Ophthalmic Surgeon to the Out-Patient Department of the Cleveland General Hospital.

The action of atropin upon the pupil and accomodation of the eye is well known to all practitioners of medicine. When administered internally in sufficiently large doses or applied locally to the eye, atropin produces a paralysis of the terminal endings of the third nerve in the sphincter of the pupil and in the ciliary muscle, giving rise to the dilatation of the pupil and the disturbance of accomodation. What follows in this article refers entirely to the local application of atropin to the eye.

Because of its power over the condition of the pupil and accomodation atropin is a very useful drug when properly used and a most harmful drug when improperly used. It is a mistake to combine atropin with every "eye-wash" that is prescribed for inflammatory conditions of the eye. This is especially true in the case of old people. The uses of atropin might be limited to the following diseases: iritis; scleritis; inflammation of the cornea; ulcers and wounds of the cornea and spasm of accomodation.

In the successful treatment of iritis it may be truthfully said that atropin is an essential. Its usefulness in this lesion consists in its lessening the amount of blood in the iris by causing its contraction, in keeping the iris at rest and in dilating the pupil, thus preventing it from coming in contact with the anterior surface of the lens and becoming attached to it by posterior synechiæ. Should posterior synechiæ be formed before the use of the drug is commenced, it is then useful as an aid to a diagnosis of the condition, and should the synechiæ be of recent formation it may succeed in rupturing them.

By the use of atropin in the treatment of scleritis, inflammations of the cornea and ulcers and wounds of the cornea, the medication is aimed chiefly and in fact entirely at the iris. This is because of its liability to become inflamed being in such close relation to the diseased parts. In the case of wounds or ulcers situated near the margin of the cornea, atropin is contra-indicated, and eserine should be used to contract the pupil and draw the iris away from the injured or diseased region. In spasm of accomodation atropin is used to paralyze the ciliary muscle and thus relieve the strain on the eyes, while suitable constitutional treatment is carried out to build up the general system.

There are at least three diseases of the eye in which atropin is sometimes prescribed and thus misused. Those diseases are: conjunctivitis, acute inflammatory glaucoma and incipient nuclear cataract. To prescribe atropin simply because a patient comes to us with an inflamed eye is a mistake. The inflamed condition may be due to either of the first two diseases just mentioned. In conjunctivitis the drug would act as an irritant to the diseased membrane and increase the trouble. In glaucoma the drug would, by contracting the iris, (dilating the pupil), further close up the filtration angle of the anterior chamber. This would more effectually prevent the exit of the aqueous humor, and thus increase the intra-ocular tension which is already too high and which is the cause of the destruction of the eye.

Some physicians, appreciating the value of atropin as a dilator of the pupil, prescribe it for patients with incipient nuclear cataract. This was brought to my notice a short time ago on examination of two patients with cataract, in both of whom atropin was being used because an increase of vision could thus be obtained. After explaining to their physicians the danger of glaucoma in the manner above described, they instructed their patients to cease using the drug.

By what has been written it must now be evident that to the proper prescribing of atropin it is essential that a correct diagnosis be made. In this instance the old adage may be quoted, "Be sure you are right, then go ahead."

*From the *Bulletin of the Cleveland General Hospital*, July, 1899.

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR,
BUFFALO, N. Y.

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Editorial.

MOISTURE IN LIVING-ROOMS.

The attention of the profession is frequently called to ingenious contrivances for adding moisture to the air of houses, and likewise to the climatic advantages of certain regions which have a low rainfall and consequently an atmosphere of unusual dryness. It is perfectly evident, from the well-known physical law that air can take up increasing amounts of water as its temperature rises, that house air is relatively dry as compared with out-door air, at all times when artificial heat is used, unless some special contrivance is employed to add water to the air indoors. Several questions arise; is the outdoor air of the proper degree of dryness; is indoor air plus whatever moisture it will take up by spontaneous and unregulated evaporation, better for the human system than ordinary indoor dry air; if additional moisture is required, should not the amount be accurately graded; is such accuracy feasible; what is the standard desideratum of moisture in the air; is it advisable that this standard should be constant or does the variation of moisture originally experienced by those living in a state of nature conform to hygienic requirements; should there be differences of moisture according to the state of health or to the nature of disease?

These questions we must confess to being unable to answer, but we wish to call attention to some facts commonly ignored in this connection.

Living rooms are usually kept at a temperature of about 70 degrees F. during the winter, or about that of moderately warm summer weather. Old, feeble and pampered individuals often keep the temperature much higher, but this is universally regarded as undesirable for those in health. Yet the clothing worn in the house in winter is much thicker and contains more air in its meshes than that worn in the house in summer. Here is an indication for a dryer atmosphere in winter, to allow more ready perspiration and transpiration from the skin. The necessity for this rests not only on a desire to be comfortable. Out door exercise in winter is not attended with the tendency to free perspiration that exists in summer, and, consequently, more work is done by the kidneys in winter and there is a corresponding need of increasing the activity of the skin, in spite of the thick and warm garments. Thus, so far as general hygiene is concerned, it would seem wise to allow the air of living-rooms in the winter to be quite free from moisture. If the air is kept both warm and damp, so that evaporation is impeded, summer clothing should be worn for a summer temperature, winter and summer. This is, of course, an impossibility for busy men and women unless the swaddling for enduring external temperatures in winter is of a much more elaborate nature than merely donning an overcoat and a scarf.

It is possible that protracted residence in a warm, dry air, may be injurious so far as the throat and eye are concerned, but we doubt if harm will result in ordinary circumstances if plenty of water is drank to allow for abundant exosmosis from the naso-pahrynx and conjunctiva. The need of a relative excess of water in winter is evident if we consider that the circulation of the blood is not only a phy-

sical function but that a very important factor consists in a distribution of heat to all parts of the body by the circulation of warm liquid, precisely on the principle of a radiating apparatus for a building. Another indication for drinking an increased amount of water in winter is the relative deficiency of water taken in summer in moist fruits and vegetables. A third indication is due to the fact that most civilized persons are slightly below par, physically, in winter, and that the work of the emunctories must be facilitated by an increase in diluent.

SPECIALTIES.

While the American Therapist is essentially the journal of the general practioner, we believe that general practice for many men includes branches now practically excluded from the work of some who consider themselves in general practice, and for that reason it is our intention to keep abreast of the advances in ophthalmology, laryngology, genito-urinary diseases, and in fact, all specialties, including our own. At present, it does not seem wise to publish in every issue, pages devoted entirely to the specialties in unbroken order. The amount of space devoted to progress in a special line must depend on two factors, the actual changes made in that specialty and the relative importance to the general practitioner, having an average practice, of the kind of cases to which that specialty is devoted.

Genito-urinary diseases comprise a comparatively large part of the ordinary practice; the treatment of insane patients has not this relative, numerical, importance; thus, other things being equal, we shall have more frequent allusions to the former.

From time to time, we shall publish reviews of progress in various specialties, the appearance of these articles being regulated somewhat by pressure of other matter but mainly by the importance of the advances to be chronicled.

EDITORIAL NOTES.

Vaginal Suppositories.—We are in receipt of an advertisement, promptly refused, of an antiseptic vaginal suppository. The prominent part of the advertisement is founded in a "caution" that "experience has demonstrated that the use of this remedy a few minutes before sexual intercourse prevents conception." While we doubt the truth of this "experience," the iniquity of the business is just as great, and we trust that some day popular decency will drive this sort of commercialism out of existence.

Irrational Polypharmacy.—The *Philadelphia Medical Journal* extracts a number of formulas from the advance proof of the new Formulary of the Philadelphia Hospital (otherwise known as Blockley or the Almshouse). We regret that the six formulas given all illustrate polypharmacy, and that several include instances of physiologic incompatibility. As an interne (not at this hospital) we were forced to use the Bellevue abomination for the "allaying" of coughs, and we note that a similar irrational combination of codeine, hydrocyanic acid and chloroform is official at Blockley.

A Belated Correction.—In an article, "A Note on Orthoform," by Dr. Wm. Cheatham, af Louisville, published in our February, 1899, issue, careless proof-reading allowed an error to pass in the formula for an orthoform spray as used by Dr. E. S. Younge. To correct the error we quote the formula as it was originally written:

℞ Orthoform grs. v
Spir. vini rect.
Aquae āā min. 50

We are indebted to one of our regular readers for notice of the error, and are pleased at this evidence of the usefulness of the American Therapist as a reference-guide. There is little of value of all the introductions in materia medica and therapeutics during the past eight years that cannot be found practically described in a file of our journal.

Current Literature.

Chloretone, which is tertiary butyl alcohol with three substituted atoms of chlorine, is formed from the action of potassium hydrate on equal parts of acetone and chloroform. It resembles camphor in consistency and odor. It is soluble in the ordinary organic solvents, not in water except to the extent of 1 per cent. It is hypnotic and anesthetic, in various degrees, according to the amount absorbed, and it is absorbed experimentally in almost all ways, even including inhalation of the vapor. One-half per cent. is antiseptic, it being a general rule that anesthetic drugs are lethal or paralysant to bacteria, in other words, they have the same general kind of action on all forms of protoplasm.

Its action is almost exclusively upon the nervous system, there being, in moderate or even large dose, practically no hemolysis nor depression of respiration, circulation, etc. In dose and use, it is practically a safe chloral; but it is distinctly analgesic while chloral is not. It is oxidized in the body, not being recoverable in the secretions, even in the form of component radicles, but chlorides are increased in the urine. It may be used as a local antiseptic and anesthetic on wounds, and in various gastric conditions. It should not, of course, be used to check vomiting, which is in itself a conservative process and intended to free the stomach of irritants.

This drug well illustrates the fact that we are gradually finding substances which magnify the good effects of well known members of the materia medica, and avoid the faults of the older favorites. Thus, therapeutics is changing less radically than the discarding of the old for the new would apparently indicate. (In this article, we have drawn largely from one by Houghton and Aldrich in the *Jour. Am. Med. Ass'n*, and have also incorporated evidence drawn from a considerable number of minor reports.—Editor.)

The Neuroses of the Menopause Caused by Intestinal Fermentation.—This was the subject of a very practical and instructive lecture delivered by Dr. Charles J. Aldrich, of Cleveland, before the Union Medical Society at Akron, Ohio, May, 1899. We abstract only the following brief reference to the drugs used, and hope that those interested may be prompted to procure and study the full report, published in *Annals of Gynecology and Pediatrics*, Dec., 1899:

"The test of a well-planned attack on the fermentating contents of the sluggish digestive tube will do more to convince you of the correctness of my position than any number of labored periods.

"I have tried many drugs supposed to possess antiseptic power in the intestine. I have not expected too much, and hence have not been grievously disappointed by the meager effects obtained with the most of them. The inactive sluggish musculature of the intestine is most at fault and easiest remedied. Calomel, nux vomica and saline cathartics by the mouth, and hot water enemas containing salicylate of soda and delivered through the long tube, will do much toward clearing the befouled tract. Massage, electricity, diet and intestinal tonics will aid in keeping it clear. I have used a combination of betanapthol, salicylate of bismuth and vegetable charcoal as the best result of my experience, and careful observation has convinced me that we possess no remedies with wider efficiency as intestinal antiseptics than the ones mentioned.

"The weakened digestion should receive careful attention. Malt benefits most of these cases and, when constipation is a feature, I have secured splendid results from a combination of malt and cascara sagrada. The enteric pill of permanganate of potash (salol-coated) has proved of signal benefit in some cases. In those cases with motor insufficiency of the stomach and intestines I have secured splendid results by the administration of one or two teaspoonfuls of effervescing phosphate of soda in a half pint of hot water two and a half hours after meals."

THE DOSE OF ANTITOXIN.—An editorial writer in *Pediatrics*, (March 1, 1900) advises large doses of antitoxin, with which view we are in full accord—from personal experience and success. The editorial in full follows:

When diphtheria-toxin and antitoxin are mixed together in a test tube, the amount of the latter required to neutralize the former is minute. When a guinea-pig is injected with a poisonous dose of diphtheria toxin he will survive if a small dose of antitoxin is administered within 24 hours. After two days it will take many times this amount of antitoxin to neutralize the toxins that have been introduced. Dr. A. J. Turner, of Brisbane (*British Medical Journal*, Dec. 30, 1899), thinks that this is because the toxin has left the blood and has entered into some sort of combination with the tissues of the body. Whether this be the true explanation or not, he has succeeded in reducing the mortality in his cases from 17 to 13 per cent. since he has been using large doses of antitoxin.

We thoroughly agree with this author in regard to the use of full doses of antitoxin in the beginning. In the majority of the cases seen by us, the patient has exhibited catarrhal symptoms with a feeble pulse for some days before the actual appearance of the membrane; hence the advisability of making a culture in every case of sore throat among children. During the catarrhal period toxins are being elaborated, as is often shown by their action on the heart, although no membrane has yet made its appearance. Bearing these points in mind we have come to use much larger doses of antitoxin than those ordinarily recommended in the standard text-books on children's diseases. It seems also pretty well established that one full dose is more effective than smaller doses at intervals. We have never administered so small a dose as 1,500 units to a child less than two years old without a feeling of misgiving. We are much better satisfied when we have given 3,000 to 4,000 units. In older children and adults we use 6,000 units as an initial dose. If after twenty-four hours improvement has not been manifested, we give 3,000 or more units in addition. The later the case is seen, the larger must the dose be. The greatly increased amount of antitoxin per c c. of horse serum has much reduced the somewhat unpleasant, though comparatively harmless results of the older preparations, such as pains in the joints and rashes, so that we should not hesitate on account of these. In deciding upon the amount to be given, besides the supposed duration of the disease, we are also influenced by the extent of the local lesions and the amount of toxemia present.

SACCHARIN INJURIOUS.—The increasing use of saccharin in foods renders it necessary that the public should be frequently warned against the use of this unwholesome substitute for sugar. The fact that saccharin is three hundred times as sweet as cane-sugar, and that it is chiefly produced from coal-tar renders it a very convenient substitute for sugar in sweetening fruits, and in various other ways. It has by some been declared harmless because it does not produce immediately fatal symptoms when taken in moderate doses, but Payen ("Hare's Practical System of Therapeutics," Vol. 1, page 1021) calls attention to the fact that when taken in more than extremely minute doses (one and one-half grains per day), violent gastric pains are produced. A drug that is capable of producing violent gastric pains in so small a quantity as indicated is certainly dangerous for ordinary use, and not a fit substitute for a food substance. —*Modern Medicine*, Sept., 1899.

W. Stoltzner (*Deutsche Med. Woch.*) claims favorable results for suprarenal extract, in rhachitis. The *Archives of Pediatrics*, editorially, has recently laid down as causes of rickets, deficiency of fat, excess of carbohydrates, and lack of air and sunshine.

Rickets.—From a short paper on this subject, by Dr. C. A. Tuttle, of New Haven, in *Pediatrics* (March 1, 1900), we abstract the following:

Prognosis.— Under proper treatment the prognosis of rickets is good. The evolution is a long process, accompanied by a slow progressive impairment of the general nutrition and a resulting anemic and marasmic condition requiring especial care. But the innate tendency of the disease is toward a spontaneous cure, which is reached only after years, though its course under proper conditions and treatment may, in some cases, be abridged to a few months. Serious complications, from which death may result, may occur at almost any stage of the disease. These are: laryngismus stridulus, pneumonia, diarrhea, bronchitis, hydrocephalus, and amyloid degeneration of the viscera. Certain inherent conditions of the mother predispose to rickets and when they exist render the prognosis less favorable. These are ill-health, malnutrition, and disease of the mother during pregnancy; numerous or multiple pregnancies; age of mother at birth of child (forty or over); lactation during pregnancy; heredity, and syphilis.

Treatment.—The treatment of rickets is prophylactic, medicinal, mechanical, and operative. The institution of preventive measures is a matter of first importance, and by simple means directed to the above *ante-partum* causal factors in the mother, rickets may be prevented in a large proportion of cases. Prophylaxis also embraces the appropriate feeding and hygienic care of the child. During the period of gestation the general health of the mother should be kept up to the highest possible degree. Free from care and worry, she should live in the best possible hygienic and sanitary surroundings, with abundance of fresh air, exercise, and plenty of well prepared food. The common fad of American mothers to escape nursing their children for the first flimsy excuse cannot be too strongly condemned, but, if after a thorough and conscientious trial nursing be found impossible, the child must be hand-fed—an unfortunate condition, alike for the child, mother, and physician. In my hands no artificial food is comparable with good cow's milk. This, sterilized or pasteurized and diluted in proper proportions with oatmeal or barley gruel or sterilized water, with the addition of a few drams of lime-water, produces an artificial food at once cheap, easily procured and prepared, and efficient. Babies kept upon this usually become robust and hearty and with much more resistant power to the diseases of childhood than the fat yet anemic babies of the factory-prepared foods. The hygienic care of the child consists of a daily bath in tepid salt water, followed by vigorous rubbing; warm, light woolen clothing; plenty of high, dry, out-of-doors air, and good sanitation in the house. Such environment and feeding will almost surely forestall any predisposition which could possibly exist.

The medicinal treatment, while secondary to the hygienic and dietetic, is yet of quite measurable value. The general condition should be improved by cod liver oil, and so great an improvement has been wrought by it alone that some writers consider it a specific. This or maltine, either given alone or in combination with the lacto-phosphate of lime, is certainly productive of good, yet I have obtained my best results from oleum phosphoratum, as recommended by Jacobi. This I give before eating, and syrup of the iodide of iron in appropriate doses after. These are usually well borne, and in many cases an improvement is noticed after one week. In the few cases in which it has been necessarry to discontinue this treatment after a few weeks I have used Fowler's solution in the meantime and returned to the original prescription after the shortest possible interim.

If, now, all these measures have been neglected or inefficiently used, and the child has been allowed to go untreated

until he is emaciated, anemic, marasmic, and deformed, a condition is presented which will require at our hands as orthopedists, not only hygienic and dietetic supervision, but in addition, mechanical and perhaps operative treatment.

GASTRIC JUICE.—Riegel (*Zeit. für klin. Med.*) as the result of experiments, advises atropine to check gastric secretion, pilocarpine to increase it. (The use of atropine, as well as of its congeners, hyoscyamine, cocaine, etc., in hyperchlorhydria is by no means new and is well supported by clinical evidence. Three years ago we made tests of pilocarpine, both clinically and experimentally, on some twenty dogs, administering one to three milligrams from 15 minutes to 1 hour before death by illuminating gas (CO poisoning). In no instance could we find the slightest evidence, practically or theoretically, of the increase of gastric juice.—ED.)

THE NEW SUBSTITUTE FOR SODIUM SALICYLATE.— Dr. C. F. Floeckinger (*Medical News*, November 18, 1899) calls attention to a new combination of salicylic acid which has been introduced under the name of aspirin, and which he considers a most valuable substitute for salicylate of sodium for the following reasons, (1) Its agreeable taste. (2) Its freedom from irritating effects upon the stomach. (3) The absence of tinnitus aurium after the administration of physiologic doses. (4) The absence of cardiac depression. (5) The fact that it does not impair the appetite even during prolonged administration. His experiments on animals show that aspirin is practically undecomposed in the stomach, but is gradually split up in the alkaline intestinal juice. It was found to have the same therapeutic action as salicylate of sodium, but without its disagreeable effects. Aspirin should be administered either in wafers or mixed with some sugar and water, and when given in this manner it was never necessary to suspend its use in consequence of gastric irritation, and hence a cure could be obtained at an early period. The class of cases in which aspirin proved of service comprised acute and chronic articular rheumatism, pleurisy, and acute and chronic muscular rheumatism the remedy proved extremely serviceable, and produced a cure within a short time. In articular rheumatism it promptly reduced fever, diminished the pain, and caused the disappearance of the swelling. Unlike sodium salicylate, aspirin increases the motor activity of the heart, and in consequence of this influence cardiac collapse can be excluded during its use.—*The Medical Fortnightly.*

CACODYLIC ACID IN ANEMIA.—With other "Therapeutic Notes" which Dr. Philip Zenner, of Cincinnati, contributes to the *New York Medical Journal*, March 3, 1900, is the following favorable experience with a hitherto little-known and never-used arsenic compound:

Cacodylic acid is dimethyl arsenic acid. Its chemical formula is $(CH_3)_2AsH(OH)$. It is a white, crystalline substance, easily soluble in water, odorless, and always spoken of as non-poisonous. The few statements just made I found in works on organic chemistry. This preparation is not mentioned, so far as I know, in medical books, for it appears not to have been considered a medicine for the treatment of disease. My attention was first called to it at the meeting of the Cincinnati Academy of Medicine, October 30, 1899, when Dr. Heidingsfeld presented a patient with lichen rubra planus which had improved rapidly under subcutaneous injections of cacodylic acid, three quarters of a grain having been given daily for twenty-one days. The doctor stated that the drug was reputed to possess all the remedial properties of an equal amount of arsenious acid or sodium arsenate, while it was so innocuous that it might be given iuternally in from one- to three-grain doses. He further stated that the literature on the sublect was very meagre, and pertained only to skin

diseases. I have searched medical literature in vain for its mention. Its apparent success in skin disease, and the fact that it could be given in large doses as well as subcutaneously, led me to believe that it might be of special value in those constitutional conditions usually benefitted by arsenic.

At this time a young lady came under my charge in whom I determined to test its value. She had been for some years the subject of very distressing neurasthenia, especially of a cerebral type. She stated that almost from girlhood she had been anemic, and had been put upon iron and arsenic again and again. She came to me from a sanitarium, where she had received arsenic and peptomangan continuously for five months. An examination of the blood made by Dr. Rothenberg at this time, November 1, 1899, revealed the following: The red cells were 3,300,000; hemoglobin, thirty-five to forty per cent., and the doctor thought he found the plasmodium of malaria.

The patient was now ordered quinine, ten to fifteen grains morning and evening for four days, ten grains morning and evening the following three days, then for four weeks five grains twice a day, and thereafter two grains three times a day. On November 12th I began giving her hypodermic injections of cacodylic acid, from three fifths to three quarters of a grain (twelve to fifteen minims of a five-per-cent. solution), daily or every second day. She received fifty injections in all, the last on January 9, 1900.

A second examination of the blood was made by Dr. Rothenberg on Nov. 26th. The hemoglobin was now fifty-five to sixty per cent., the red cells 3,370,000, and no plasmodium was found. She was now ordered, in addition, Gude's peptomangan, a teaspoonful three times a day, which she continued to take thereafter.

A third examination by Dr. Rothenberg on December 24th showed hemoglobin seventy-five to eighty per cent., red cells 3,900,000; no plasmodium. On the day before the patient left Cincinnati, Jan. 9, 1900, I found the hemoglobin to be eighty-five per cent.

The facts that this patient had been repeatedly treated with iron and arsenic, apparently without benefit; that she had just been receiving peptonate of iron and manganese with arsenic for five months, at the end of which time there was but thirty-five to forty per cent. of hemoglobin in the blood, while she improved so rapidly after coming into my hands, prove that there was a new element in treatment to which the benefit must be attributed. That this element was cacodylic acid is very probable. It is true that the result may be simply due to the discovery of the plasmodium and the treatment with quinine. But I am not altogether satisfied as to the malaria in this case, and, even then, the cacodylic acid may have been an important agent in its removal and in the improvement of the blood.

I tried the remedy in another patient, a young lady. On November 6, 1899, the hæmoglobin examination showed seventy-five per cent. On November 20th she began taking arsenic and iron. On November 29th the hæmoglobin was again seventy-five per cent. On this date she received a subcutaneous injection of three-fifths of a grain of cacodylic acid, and a like amount at three subsequent visits. On December 14th the hæmoglobin was a hundred per cent. I hesitate to believe that in this case the improvement was due to the few injections of cacodylic acid.

Possibly the cacodylic acid is of benefit because it can be given hypodermically. I have at different times begun treatment with subcutaneous injections of other forms of arsenic, but never continued it long on account of the pain produced. The hypodermic injection of cacodylic acid is as painless as that of morphine.

I believe the above-reported case fully justifies the further trial of cacodylic acid in constitutional conditions where arsenic is indicated. I hope such trial will soon show clearly whether it is really of value.

Treatment of Senile Bronchitis.—Reynold Webb Wilcox, M. D., LL. D., New York (abstract by permission):

Belladonna usually fails to lessen expectoration. True expectorants like apomorphine and cocillana increase the sputum bepond the weakened expulsive powers. Nauseating expectorants are objectionable. Strychnine and ammonium carbonate are the most valuable drugs. As a disinfectant, creasote carbonate in gtt. xx doses every four hours is indicated. Plain creasote irritates the kidneys. Opium is strongly contra-indicated. Systematic general massage will increase chest expansion, improve nutrition, facilitate expectoration, and check exudatian. Steam inhalations of all kinds, save that of tinct. camphorae, are failures, though cry inhalations of valatile oils are of some benefit. To insure a dry atmosphere, calcium carbonate or sulphuric acid, in shallow pans, may be kept in the room. Dust should be removed from the air, either at its entrance or by a respirator. Hygienic and dietetic precautions are to be observed.

Book Notices.

International Clinics, Vol. 4 of the 9th series, for January, 1900. J. B. Lippincott, Co., Philadelphia.

This bound, quarterly journal of practical medicine is now familiar to the profession. A recent addition to the scope of the work is a department of therapy. Like all products of the Lippincott Co., the book shows that there has been no pinching of pennies, no attempt to get cheap material, either of brain or factory. Without a review of each article it would be impossible to make selections from such a work unless partiality were shown. We are glad of the occasion to congratulate the J. B. Lippincott Co. on their energy and ability to rise superior to an emergency of fire which would have crushed a firm of less strength.

The Modern Treatment of Wounds. By John E. Summers, Jr., M. D., Omaha. 9 half tone plates, 149 pages, including index. Medical Publishing Co., Omaha, 1899.

This work is rather broader than its title, including some of the principles of surgical pathology and bacteriology, sprains and contusions of joints, head injuries, fractures, frost-bite, tetanus, erysipelas, etc. The last chapter advocates the use of gloves, preferably of rubber, though some forms of cotton gloves are said to be reliable. The advice is given to leave wounds of the heart to nature unless hemorrhage requires aspiration or even drainage. The book is concise yet surprisingly complete. The methods seem to be in accordance with modern methods, but there is no marked fetichism nor seeking after unfamiliar antiseptics and rituals of technic.

What a Young Husband Ought to Know. By S. Stall, D.D. Vir Publishing Co., London, Eng. 300 pages. 1899.

This little book, though written by a layman, contains much hygienic wisdom and is well adapted to its purpose. The endorsement, with half-tone reproduction of portraits, by a number of more or less eminent men, detracts from rather than adds to its authority. The theory that the average woman is not sexually equal to the average man does not seem to be physiologically correct. If such an inequation exists, it should be regarded as an abnormality of our civilization. That it does exist in numerous instances, no one of observation can deny, but we can not view with the complacency of the author, the misery and the threat of domestic upheaval dependent upon an unequal mating of sexual forces. In the case of all such works due caution should be exercised as to the hands into which it falls. Our country is one of sexual precocity, scarcely a boy or girl above six years of age being in a state of innocence, and most children possessing a theoretic if not practical familiarity with sexual

matters which is unsuspected by most adults. It is not so much the spirit in which a book is written that produces its result, as the spirit in which it is read.

Digest of External Therapeutics. By Egbert Guernsey Rankin, A.M., M.D. Second, revised edition. 754 pp., including appendixes and index. Price, $3.50 net. New York: Boericke & Runyon Co.

The book is arranged alphabetically by diseases, and, at first glance, one is surprised to find that, far from being a compend of skin diseases, the external and mechanical adjuvants of treatment of such affections as meningitis, plague, malaria, etc., are included in this work. The exact formulae for medicinal baths and solutions commonly known by proper names are appended. Inhalations are considered under the appropriate headings, and even minor surgical operations, such as grattage of the conjunctiva. The sources of information are tabulated, and references by abbreviation are made in the text. The breadth and value of the work are far beyond what might have been anticipated from its title, and although the publishers are known as a homeopathic firm, there is nothing to suggest sectarianism in the text.

Botanical Materia Medica and Pharmacology. By S. H. Aurand, M.D., Lecturer on Botany, Pharmacology and Physiological Materia Medica, Chicago Homeopathic Medical College. 400 pages, unillustrated, with brief index. P. H. Mallen Co., 1899.

The book is intended primarily for the doctor's classes but also for graduated homeopaths. So far as we can judge, the author seems to be a consistent, low-potency homeopath, treating according to symptoms. In this day when the sectarian name is so often a subterfuge to gain practice, or is retained because the student selected a sectarian college, the man who is what he seems to be, deserves our admiration, however much we may differ from him in belief. We are, of course, unable to review the work critically, but we wish to acknowledge the courtesy extended and to remind some of our more outspoken brethren that a difference of belief does not warrant scurrilous language. We look forward to the time when all doctors may be ethical and may be in substantial agreement; we do not believe that this time will be hastened by ungentlemanly attacks on those who differ from us in opinions, however impossible we consider those opinions to be.

Hemorrhoids and Other Non-malignant Rectal Diseases. By W. P. Agnew, M.D. Third edition, 214 royal octavo pages, 76 illustrations. $2.75 post paid. Pacific Press Publ. Co., San Francisco. 1899.

The author is a firm believer in the injection method and in himself, the latter fact marring the really excellent manner in which the systematic consideration of rectal diseases is carried out.

Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwell, B.S., M.D., Professor of Chemistry and Toxicology, University of Iowa. 204 pages including index, illustrated. F. A. Davis Co., Philadelphia. 1899.

It is significant that blank leaves are inserted in the sections on sugar, bile, nuclein, urine, uric acid, and other nitrogenous compounds, where it is likely that newer and more satisfactory methods may supplant those at present taught. A number of plates showing starch and urinary sediment, etc., as they appear under the microscope, are inserted. We regret that the author has not been able to find a convenient test for lactic and butyric acids in gastric contents, and that he does not assign a place to benzo-purpurin, which is probably the most sensitive of the indicators of free acidity in general. We would also call his attention to our report of some years ago, showing gasoline to be a more thorough extractor of oxidized indican than chloroform. The book is well adapted to its proposed function, and we would advise physicians to follow it as a text if they have time to review their chemistry.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Leading Articles.

*DIGITALIS AND ITS AIDS IN CHRONIC CARDIAC DISEASE.**

By J. B. McGEE, M.D., Cleveland, Ohio.

The essential indication in chronic heart disease is to maintain the integrity of the cardiac muscles; its condition we know is of infinitely greater importance than any valvular lesion which may coexist, and while it possess the power of preserving the compensatory balance, treatment is rarely required. The character of the myocardium then rather than that of a murmur should be our guide, as changes in its condition indicating weakness imply a lack of ability to overcome valvular defects, while the intensity of a murmur bears little relation to its gravity.

When compensation is deficient the immediate problem is how to obtain its restoration, and the most rational method appears to be, to lessen the labor of the heart, to increase its power, and to improve its nutritive supply. Anything that tends to improve the myocardium will to a great extent nullify the effects of other cardiac changes, as the reserve energy of the heart will generally assert itself if a proper chance be given, and this fact would emphasize the value of rest. The normal tonicity of the vascular system is also essential to healthy cardiac action, and the further we recede from this condition on either side the greater the work imposed upon the heart; on the one hand in face of the increased peripheral resistance, and on the other from extremely relaxed vessels requiring greater effort for their supply. So the vascular tension as well as the tone of the cardiac fiber is a factor to be considered in the successful treatment of these cases, and it matters little what special lesion may be present, as interference is seldom indicated as long as compensation is complete. When however the evidence of failing power exists, showing the inability of the heart to meet the demands upon it, digitalis is doubtless our chief remedial reliance. The almost universal experience of the profession coincides in assigning to it the first place, and the combination of qualities it possesses evidently justifies this estimate of its value. Its dual action in exerting control over heart and bloodvessels renders it in these combined respects of almost specific power when the heart muscle is weak and vascular tension is low. That it has drawbacks we are aware, and caution may be required in its use, but it seems to sustain the heart better than any other single drug, and while some of its substitutes are excellent, no other drug appears to combine so many attributes of clinical worth. While we realize that our efforts are directed to the relief of the serious symptoms sequential to the compensatory disorder, Drs. Hare and Coplin have experimentally proved that under the use of digitalis a distinct cardiac hypertrophy is produced, and the inference evidently is that when it is administered regularly and persistently for a time, it not only aids the immediate symptoms, but absolutely increases the volume of the heart muscle, the gradual growth proving curative in contributing to the compensatory control.

Rest is recognized as a most important aid in treatment, and physical rest which

* Read before the Cleveland Medical Society, December 8, 1899. Reprinted from the *Cleveland Journal of Medicine*, February, 1900.

gives the heart the least to do in the easiest way, relieving strain and reducing pressure, may be supplemented by digitalis which by lengthening diastole gives the impaired organ a longer time for restoration or repair. Like all drugs which are eliminated slowly, doses at long intervals are sufficient to maintain its effects when once produced, and if properly given and carefully watched it is one of our most trustworthy agents, and although perhaps too much stress has been placed on its cumulative action, we know it is a possible danger especially if free diuresis does not follow; medium doses rather than large, diminishing them as dropsy disappears, or the pulse reaches its normal rate, and occasionally ceasing its use to allow the system to eliminate excess, will generally enable us to escape the errors of its abuse and reduce its risks to a minimum. When the relatively normal mechanism of the heart has been restored, it may be discontinued and some substitute employed if so desired. As digitalis is quite complex in composition and varies greatly in medicinal worth, a preparation of the plant itself, and preferably one which is standardized, should be chosen; its chief active constituents are four in number, and as regards their relative value, while no one singly represents the entire virtue of the plant, digitalin is assumed to most nearly do so; my personal experience has been limited to this alone, and it has appeared to me that the cardiac effects are in some cases quite as satisfactory as those of the drug from which it is derived. Recently leading clinicians have reported very favorably concerning digitoxin, although it is very slowly excreted and for this reason it has been stated that cumulative effects are quite liable to follow under its use. The alcoholic preparations hold in solution the principles which produce the most marked tonic effect upon the heart and vessels, while experimental evidence verifies the clinical fact that the infusion excels as a diuretic; probably because digitonin which is readily soluble in water has the power of relaxing the vascular walls. A weak heart, low tension and dropsical effusion then call for digitalis, as the loss of vascular tone throws the entire work upon the heart, while under this remedy the arterial elasticity is restored. When we wish to use it in the presence of high tension however, its union with a vasodilator is indicated, and nitroglycerin is without doubt the one most generally employed, and probably the best. Its value as a cardiac stimulant is doubtless due rather to the relief of resistance under its use than to the direct stimulus to the heart itself. The dyspnea which occurs, especially in mitral lesions, is often associated with vasoconstriction, and this drug is here almost a representative remedy, and generally confers relief more promptly than any other we possess, although a hypodermatic of morphin, acting as a nervous and vascular sedative, is also frequently effective. An objection to the use of nitroglycerin with digitalis has been advanced because of the fact that the two drugs differ greatly in the promptness and persistence of their action, the dilating power being lost before the effect of digitalis disappears. Practically, however, I find the combination an efficient one, but when indicated they can be given separately, the nitroglycerin frequently and the digitalis at longer intervals.

While digitalis generally proves all we may desire, it sometimes disagrees, and even when well borne disappoints us, and of the various substitutes strophanthus is commonly conceded to be next in general therapeutic worth. Its action is asserted to be almost exclusively upon the heart itself, that upon the vessels being scarcely appreciable, and it is certainly a very valuable drug, one which I personally favor and generally employ with satisfaction. Its special indication is when vascular tension is high or arterial changes exist, and a small dose frequently repeated appears to act best. Many believe it the preferable drug in either extreme of life,

and I can testify to its value in children. It rarely produces gastric disturbance or cumulative effects, and while it is said to lack the special nutrient influence of digitalis on the heart, excels it in promptness of action. Caffein, theobromin and its derivative diuretin, are often quite effective substitutes for digitalis, and my impression is that diuretin acts best in children ; in using caffein, too, my experience is that the principle itself, although insoluble, appears to excel its soluble salts. There are many other familiar agents resembling these, and each has its advocates, and possibly its advantages, but on the whole digitalis still remains the chief reliance of the profession.

In addition to the drugs generally recognized as primarily cardiac tonics strychnin is in some respects an almost ideal stimulant to the entire circulatory system. While perhaps best as an emergency remedy, its value in conditions of chronic cardiac weakness is certainly extreme, although the increase in heart power is without doubt but a part of its general tonic action. In the cases to which the term cardiac asthenia has been applied, where with no appreciable lesion, the heart evidently lacks nervous energy or muscular power, or possibly both combined, it probably excels even digitalis as a remedy and can be given for a prolonged period with practically no risk. In valvular disorders with failing compensation it forms a most efficient aid to digitalis and its allies, and when this condition exists quite large doses are borne with benefit. When bradycardia is present, digitalis would only intensify it, as while it energizes it also slows the heart, and strychnin would evidently here be preferable. It is also a drug which excels in the treatment of the aged, as they respond to it extremely well, while it is probably clinically true that digitalis is not very well borne by them, presumably because of the vascular changes incident to the senile heart. When we remember the relation existing between the peripheral circulation and the heart, it is evident that in these cases drugs which lower pressure are indicated, the lessened resistance aiding the heart to recover itself. Nitroglycerin and the opiates are here of value as well as the iodids, which have been proved to lower tension even when the vascular change is not due to a specific cause. Another agent whose beneficial effect in cardiac cases is greater than our knowledge of its usual action enables us to explain, is mercury.

Judiciously given it will often yield relief out of all proportion to the amount administered, and which we occasionally fail to obtain from the drugs on which we are accustomed to rely. While the mercurials possess no direct power as cardiac stimulants, their action is quite decided in enhancing the effects of digitalis, and aiding to produce results not attainable by the latter alone. We occasionally see cases with dypsnea and dropsy in which the representative remedies render but slight aid, but where the distressing symptoms rapidly disappear, and the patient passes from comparative danger to comparative comfort when a mercurial is added to the line of treatment. Although it will doubtless act well in any form my personal preference is for the mild chlorid which excels as a diuretic, and although larger amounts are recommended I have found one grain three times a day usually sufficient. The benefit derived is evidently due not to diuresis alone, as this seems scarcely sufficient to explain it, but probably also to stimulating secretory activity, and lessening the hepatic congestion so universally present in chronic cardiac weakness ; so acting by relieving factors contributing to the existing condition, and in addition to its eliminative effects it may also exert an alterative action on the myocardium. My experience is that salivation is apt to appear if the drug be continued over a week and as the renal action continues sometime after ceasing its use, it is best to then discontinue it and resume it after a short interval

if needed. After using a mercurial the usual remedies seem to produce better results and when given in appropriate cases it will generally prove of benefit; although long a favorite in these conditions we have perhaps lost sight of its value in our rush after newer remedies to which we are apt to ascribe more merit, and frequently with little justice in the claim.

There is too an indigenous plant, long recognized as excellent in cardiac dropsy, and which, when a good preparation is employed, rarely fails to yield some relief. I refer to the apocynum cannabinum or Black Indian Hemp, and having used it for years can personally testify to its possessing some therapeutic worth especially in causing diminution of dropsical de posits; large doses are apt to disagree, and a small one is preferable for the diuretic action. One of its active principles, apocynin, appears to resemble digitalin in its effects upon the heart, so the diuresis produced is evidently cardiovascular in character, and it practically represents the diuretic principle of the drug. Apocynum causes no cumulative effects and will occasionally prove quite efficient in removing the dropsical symptoms of cardiac incompetency. In many cases a combination of several of these remedies will produce better results than one alone, and we frequently need every aid in our power to afford relief and favor the return of compensation.

THE TREATMENT OF TUBERCULOSIS.—Flick thinks iodine a most valuable remedy. He uses it in the form of europhen, and gives it by inunction. One teaspoonful to a tablespoonful of the ointment should be rubbed into the armpits and inside of the thighs once or twice a day:

R.	Europhen	ʒ j
	Oil of rose	gtt i
	Oil of anise	ʒ j
	Oil of olives	ʒ ijss

This should be kept up for a long time, and even after all symptoms have disappeared.—*Western Medical Review*, December 15, 1899.

*QUINSY IN CHILDREN.**

By ADOLPH O. PFINGST, M.D.,
Professor of Physiology and Histology, Louisville Medical College; Consuling Ophthalmic and Aural Surgeon Louisville City Hospital, etc., Louisville, Ky.

Quinsy occurs essentially during the middle period of life, more especially between the twentieth and thirtieth years. It is rarely seen before the tenth or after the fiftieth year. However, it may occur in infants, Reid having reported a case (*Archives of Laryngology*, 1881) occuring in a child seven months old. Out of forty-four cases recently reported by Cobb in the Boston *Medical and Surgical Journal*, July, 1899, three occurred in children under ten years. Bosworth, in his text-book on throat diseases, speaks of seeing it but three times in children under ten years out of one hundred and thirty-three cases. Observations of others confirm these reports, showing that the occurrence of quinsy before the tenth year is very rare.

The pathology of peritonsillar suppuration occurring in children differs little from that occurring later in life. The tissue around the tonsil becomes infiltrated with pus containing staphylococci, and usually also streptococci, while the neighboring tissue becomes edematous. The inability to open the jaw, such a common and annoying symptom and hindrance to the treatment in adults, resulting from the swelling and pain, is frequent in children, the elasticity of the tissue of the young yielding more readily to the swelling. In the two cases cited the children could readily open their mouths, thereby making the surgical treatment easier.

So little is known positively of the etiology of quinsy that it would be impossible to make a distinction between the etiological factors of the disease occurring at different periods of life. We know that Bosworth and others consider the rheumatic tendency an important predisposing factor. Others look upon the dis-

* Abstract from an article in *The Louisville Monthly Journal of Medicine and Surgery*.

ease as a purely local affection resulting from an infection—most probably through the crypts of the tonsils. When we consider the frequency with which quinsy follows the exanthematous fevers, when it occurs at all in children, and that the throat harbors many varieties of pathogenic micro-organisms, among them the pyogenic species, during these diseases, the latter view would seem most aeceptable. It is the rule for the throat complication to arise during convalescence, as it did in my cases.

The symptoms of peritonsillar inflammation in children differ from the usual clinical picture only in that they are less severe. There is the same increased salivation and accumulation of offensive tenacious mucus in the fauces. Dysphagia, usually unilateral, is a prominent symptom, while the respiration is also more or less interfered with, the obstruction in the pharynx giving the voice a peculiar nasal character. The symptoms are usually ushered in with a chill, followed by elevation of the temperature. With the accumulation of pus the pain becomes more and more severe, and is often referred to the teeth or the ear of the affected side. Frequent and painful efforts of deglutition are made in an endeavor to free the fauces of the saliva. It is not uncommon, especially in children, for the cervical and sublingual glands to become enlarged.

The milder course of quinsy in children makes it more amenable to treatment. The treatment is best begun with a brisk purgative. Sprays and antiseptic gargles (glyco-thymoline) are useful to keep the mouth clear of the aggravating slime, which often adds to the patient's discomfort. Pain is often relieved by cold pack or by holding pieces of ice in the mouth. In other instances hot applications (poultices) and gargles of hot salt solutions act more beneficially. Sprays of a weak carbolic-acid solution have long been used to shorten the inflammation. Of late years injections of carbolic-acid solutions into the peritonsillar tissue have been used with benefit. Huebner, who originated this form of treatment, found it especially servicable in quinsy following scarlet fever. Professor Seitz, of Munich, who commends this method of treatment highly, has had the same experience. The indications for surgical interference are the same in children as they are in adult life. A bistury should be thrust into the swollen tissue as soon as the presence of pus is suspected. If there is no sensitive spot or an area which pits on pressure to indicate the location of the pus, its most usual position should be selected as the point of puncture (in the velum palati just above the tonsil). While this operation should, if possible, be carried out without administering an anesthetic, I believe that the dangers of opening abscesses of the throat during anesthesia have been largely exaggerated. I have repeatedly removed adenoid growths from naso-pharynx under general anesthesia, and would not hesitate to open an abscess of the throat in the same manner if circumstances necessitated it. Only last week I was forced to resort to this means of treatment to relieve excruciating pain and severe discomfort in an adult suffering from quinsy, in whom it was not possible to open the mouth without an anesthetic. Strict precautions as to the position of the patient must be observed to prevent the pus from being aspired. With the patient on his back, the head should hang over the edge of the table, thereby bringing the point of incision to a lower level than the laryngeal opening, and allowing the pus to flow out of the open mouth. After incising the abscess, convalescence is usually rapid. However, an attack leaves a marked tendency for recurrence of the trouble at indefinite intervals.

In connection with the operative treatment of quinsy it might be of interest to mention a method now being practiced by Dr. Geo. A. Leland, of Boston, which met with much favorable comment at the last meeting of the American Laryngological Society. The largest crypts of the

tonsils are enlarged and connected with a knife. The sterile index finger is projected into the enlarged crypts from where a sinus can frequently be made out leading into the circumtonsillar pus-cavity. The finger is passed to the lowest limit of the cavity and the tonsil torn through inwardly, giving free exit for the pus, and establishing drainage from the lowest point. The operation is carried out usually without an anesthetic, or, if one be demanded by the patient, during partial ether anesthesia. It is claimed for this method that it establishes better drainage than the old method of incision through the velum, and that it lessens very much, or entirely, the possibility of recurrence.

The danger of hemorrhage in the operative treatment of quinsy is the same in children as adults. In the cases left to break spontaneously the danger of strangulation is much greater in very young infants than in older patients.

*MODERN PATHOLOGY IN DISEASES OF DIGESTION.**

By H. D'Arcy Power, M. D.,

Lecturer on Medicine, College of Physicians and Surgeons of San Francisco.

The last number of the *Journal* contained an article setting forth the opinion of Vaughan Harley that the chemical examination of the gastric contents was too greatly neglected by English medical men.

The complaint may be applied with equal force to the average physician in the United States. This is not a healthy state of affairs for a supposedly progressive science, or rather, its practitioners, seeing that the labors of Ewald, Boaz, Einhorn, and many others have long been known and available; but it is to be feared that worse lies in the background.

It is permissible and pertinent to ask: What percentage of those practicing medicine carry into their treatment of so-called dyspepsia any clear idea of the physiology and pathology of the digestive organs? Do they remember that starch digestion continues for some time after the ingestion of food, and ought not to be cut short by the premature exhibition of acids? Do they recollect that pepsinogen is rarely deficient, though the hydrochloric acid necessary to convert it into pepsin is commonly so?

Is it generally borne in mind that the stomach secretes about three pints of gastric juice per day, containing about two parts per thousand of hydrochloric acid, —a quantity equal to forty-five minims of the acid to each meal, on the basis of four meals a day? Evidently it is not remembered, or prescriptions calling for five minims of hydrochloric acid would not be the rule.

Some months ago the writer investigated the character of the prescribing usual in the capital city of this State, with the results recorded elsewhere. Recently he instituted similar inquiries in San Francisco. The method adopted is to obtain from reputable drug stores unsigned copies of all prescriptions handled over a given period of time. The results should be of interest, especially to those engaged in medical education. A full analysis of these returns is reserved for a future occasion, but a few facts will show how largely empirical is the average prescribing. Of 25,000 prescriptions, 10,000, or 40 per cent, consisted *entirely* of proprietary articles, and 65 per cent. were all, or partly, compounded thereof.

To confine ourselves to diseases of the alimentary tract, as indicated by this type of prescription, it was found that the average dose of hydrochloric acid was from three to five minims, very rarely ten, and never more. Let us ask what was the idea in prescribing these minute doses of acid? Evidently not to make good a physiological deficiency, for to that they were entirely inadequate. Why, again, was the acid never given alone, but almost always in conjunction with pepsin, and not infrequently in conjunction with *pancreatin*? Is it not generally known

* From *Pacific Medical Journal*, April, 1900.

that full doses of hydrochloric acid, given three-quarters of an hour or so after meals, is all that is required to convert the nearly always present pepsinogen into active pepsin? Evidently it is not acted on.

Neither did these 25,000 prescriptions give any evidence of the present state of knowledge concerning Hyperchlorhydria. It is a very common disease, but its treatment by the exhibition of full doses of sodium bicarbonate or other alkalies, two or three hours after meals, was conspicuously absent. The use of the dietetic treatment by the prohibition of the starches and the prescription of albuminoids could not be determined from the directions, but men in consulting practice will, I believe, agree that it is not common.

Another marked feature of these prescriptions was the small use made of intestinal disinfectants, notwithstanding that the constant occurrence of the symptoms of intestinal intoxication ought to suggest their frequent employment. Perhaps the most marked feature of this investigation is the evidence of the preponderant use of artificial aids to digestion. A use clearly out of all proportion to the requirements of a correct therapeusis. A use that amounts to an abuse; and, when long continued, harmful in the extreme. What would be thought of a surgeon who kept a limb in splints until muscular atrophy was established? Yet it is not uncommon for digestants to be given until muscular atony and glandular atrophy have permanently injured a merely functionally disordered stomach. *Ægrescit medendo.*

Lastly, to what extent is the effort made to diagnosticate intestinal from gastric dyspepsia? The former is quite common. It requires different treatment, but the prescriptions examined give little indication of its recognition. Ox gall, for instance, had no place therein. Leaving on one side the unjustifiable reliance on proprietary articles, which in itself excludes 65 per cent. of the prescriptions from a place in scientific medicine, taking no note of the not infrequent examples of chemical incompatibility, there still remains a residuum in which we ought to find an acknowledgment of the status of modern physiology and pathology. We can only say that if the knowledge exists, it is not in evidence.

*DESICCATED SUPRARENAL CAPSULE IN ACUTE CORYZA.**

By Frederick H. Millener, M.D., Buffalo, N.Y.

I wish to beg the indulgence of the Academy for presenting a subject which is apparently so trivial as the relief of an acute coryza. An eminent professor, I believe it was Professor Hare, of Philadelphia, once remarked, that the reason our homeopathic brethren are so uniformly successful in their practice from both a worldly and medical point of view, is not because their theory and practice is proper and scientifically correct, but because of their attention to details, and it is certainly not that they cure disease, but rather that they alleviate the painful symptoms and allow nature to effect the cure, for as soon as the pain is gone the patient is patient indeed.

During the last year or two much work has been performed for the determination of the function of the suprarenal capsules, and of their possible use in therapeutics. It is not yet settled whether or not they contain a true active principle, much less what that active principle is. They certainly contain some toxic substance. It is demonstrated from the action possessed by the suprarenal capsules, or their extract, that they contain an active principle which is the most powerful substance known as a direct or indirect stimulant of the vaso-motor system, resulting in a decided rise of the blood pressure. This great increase in arterial pressure, after the ingestion of this gland, or its extracts, is due to the extraordinary power they possess over the muscular fibers in the

* Read before the Surgical Section of the Buffalo Academy of Medicine, December 5, 1899. Reprinted from the *Buffalo Med. and Surg. Jour.*

walls of the arterioles. One tenth of a grain of the desiccated gland causes a maximal effect upon the heart and arteries of a twenty pound dog. From this the conclusion is drawn, that its principle is capable of occasioning a well-marked physiological effect, in the dose of one eight-hundredth of a grain, in an adult man.

In the *Wiener medizinische Blätter*, November 11, 1897, Velich points to the local anemia in mucous membranes occasioned by the local application of the suprarenal extract. He described the action of the extract on the unbroken skin and also arrived at the conclusion that this preparation, when applied to the broken or unbroken skin, produces a local anemia. He has observed that the normal florid color of the skin vanishes, and draws attention to its effects if applied to portions of the epidermis affected with eczema.

It is extremely interesting to note that when the drug is applied to epidermis reddened by eczema or scalding, its action is always confined to the site of its application. The aqueous extract, according to Bates, is a powerful astringent and hemostatic. Internally, it increases the action of the heart, but considerable quantities may be ingested without apparent injury. Its use hypodermatically requires careful watching; locally applied, the drug is never followed by any constitutional symptoms or manifestations. In an instance referred to in the authority just mentioned, ten grains occasioned alarming effects—the face became livid and there were throbbing pains in the head and chest; the pulse was weak, but consciousness remained clear and the patient soon recovered.

Bates further states, "when it is instilled into the eye the conjunctiva of the globe and lids is whitened in a few moments." It has been noticed that the same effect takes place in the nose and naso-pharynx, and none of the usual drugs, including cocaine, can produce such an astringent effect. It was therefore applied to a congested condition of the nasal mucous membrane such as is present in an acute coryza. The aqueous extract was prepared by dissolving twenty grains of the dried extract in half an ounce of water and filtering through cotton. The drug should be applied by first cleansing the nose and naso-pharynx with an alkaline wash made up of sodium salicylate, sodium bicarbonate and boracic acid. The aqueous extract of suprarenal capsule is applied to the nasal membrane on pledgets of cotton, and posteriorly to the naso-pharynx by means of an atomizer.

In order to get the best results the extract should be made up fresh as it will not keep in a warm room, and if it is dissolved in a saturated solution of boracic acid it does not work as satisfactorily. The patient is thus relieved of a very distressing condition for two or three hours, or until such time as the patient may use a mercurial purgative or otherwise get rid of this condition. I merely wish to state that extract of suprarenal capsule may take the place of that dangerous drug, cocaine, with great success for relief of congested mucous membrane. The extract may also be employed in some of the more or less bloody operations on the nose. The extract prevents hemorrhage because of its property of contracting the small arteries and arterioles. After hemorrhage begins the extract is not efficient.

It is possible to perform almost any operation in the nose or on the nasal membrane almost bloodlessly, providing you insert a pledget of cotton wool soaked with 5 per cent. solution of cocaine into each nostril, leaving them *in situ* for five minutes. On withdrawing these, similar pledgets soaked in solution containing five grains of suprarenal gland to the ounce are introduced and left there for the same length of time. The extract is not an objectionable hemostatic. It does not form clots like iron or irritate as does peroxide of hydrogen.

*EUPHTHALMIN.**

By Albert B. Hale, M.D., Chicago.

In using eye drops for diagnostic purposes, practitioners have hitherto been obliged to consider three factors in the effect produced.

First, and least desirable is the action of a drug upon the ciliary muscle; for however valuable this action, in combination with mydriasis, may be to the ophthalmologist in aiding him to estimate refractive errors, it is always intensely disagreeable, often dangerous to the patient and certainly unnecessary for the mere study of the objective condition of the lens or fundus.

Second, is the anesthetic effect, most marked in cocain, least so in atropin, which is of service only in operations and no use whatever for diagnosis.

Third and most important, is dilatation of the pupil, the great advantage of which lies in the ready accessibility it allows to all parts of lens and fundus for the study of changes detectible only by the ophthalmoscope.

To produce the first effect, and it is only the worker in the special line of refraction who must resort to it, paralysis of accommodation or cyclopegia, we must use atropin, scopolamin (hyoscin), duboisin, homatropin or cocain, which I have named in order of their strength.

To produce the second effect, local anesthesia, we have hitherto had only cocain, and lately Eucain B, which, though of indisputable and inestimable service to both specialist and general practitioner, yet had disadvantages that have only been overcome since the introduction of holocain, just mentioned.

To produce the third effect, we have hitherto had to resort either to atropin, which is so powerful as to be dangerous and so lasting as to be disagreeable, or to homatropin, too closely allied to atropin for any practical advantage, or to cocain, which often proves annoying by its slight mydriatic effect or by its primary dessication of the cornea and subsequent hyperemia of conjunctiva.

As I have mentioned above, holocain hydrochloride in a one per cent. solution is the ideal anesthetic for the general practitioner, as it possesses that property only. As yet we have no drug to produce accommodative paralysis alone and in but few cases falling under the ophthalmologists' hands would that be advantageous. Up to the present we had nothing to produce pupillary dilation only, until in Euphthalmin we seem to have found just the proper drug. Its sole and only use is as a dilator of the pupil, a mydriatic. In my experience it causes no paralysis of accommodation whatever. Euphthalmin is another product of the synthetic laboratory, the name being but a trade designation of the hydrochloride of a very complex base from the methyl diacetone group. It bears the same relation to "Eucain B" that homatropin bears to tropococain; that is, euphthalmin (1) is the hydrochloride of the mandelic acid derivative of diacetonalkamin group; homatropin being the synthetic product from mandelic acid and tropin, two derivatives of atropin.—(New Remedies, Coblentz, P. Blakiston's Sons & Co. Third Edition.)

I have tabulated one hundred and fifty cases in which I have used the 10 per cent. solution of euphthalmin. Some of these are repetitions on eyes of the same patients, but as they were at distinctly separate intervals I have felt warranted in calling each application a test by itself. The table is as follows:

150 cases of Mydriasis produced by 10 per cent. euphthalmin:

7. In tobacco amblyopia.

19. In suspected optic neuritis.

11. In demonstrable optic nerve atrophy.

33. In sluggish pupil in presbyopia.

27. In suspected cataract, in nine of which suspicions were confirmed by de-

*Abstracted from an article on "Ocular Therapeutics for the General Practitioner," in *Chicago Medical Recorder*, Feb. 1900.

tection of slight spoke opacities, not visible through the ordinary pupil.

20. In systemic diseases, such as nephritis, arterio-sclerosis, for the purpose of studying the fundus but where nothing was discovered.

13. In suspected glaucoma simplex.

2. In undoubted iritic adhesions, to see what form the irregular pupil would assume.

8. In high myopia to admit of more accurate examination of fundus.

10. In general cases of comparison.

Five of the last 10 cases I reserved for comparison with the results of Treutler (Marburg) which I copy from the Klinische Monatsblätter für Augenheilkunde, xxxv, No. 9, September, 1897, illustrating the effect upon accommodation.

It is interesting to observe Treutler's assertion (loc. cit) that this is explainable only on Helmholtz' theory of accommodation and would be incomprehensible on the theory of Tscherning and Schoen.

TREUTLER'S TABLE.

Name	Age	Present proximum		Duration of effect	Decrease in accom.
		Before the use of 2 drops 2% euphthalmin	After the use		
H. W.	11 years	7 cm.	10 cm.	55 minutes	4.3 D
H. J.	19 years	6 cm.	7 cm.	43 minutes	2.4 D
A. B.	30 years	10.5 cm.	11.5 cm.	45 minutes	0.8 D
L. W.	32 years	11 cm.	11 cm.	40 minutes	0.0 D
J. L.	38 years	17 cm.	17 cm.	50 minutes	0.0 D

It will be noticed that early in life manifest range of accommodation is reduced somewhat, whereas in eyes over thirty there is practically no effect. My own experiments so nearly confirm these of Treutler and Winselman (Therapist, Aug. 15, 1898), although differing from those of Jackson, (Ophthalmic Record, 1899), that after this series of five cases I made no more detailed observations.

HALE'S TABLE.

The dose in each case was 1 drop twice at 10 minute intervals. Euphthalmin 10 per cent.

	Age	Refractive state	P. P. 1 hr. before use of drug	P. P. 1 hr. after about max. dilatation	Duration of dilatation	Decrease in accom.
A B	9	Hy.	8 cm.	10 cm.	2 hrs.	2.5 D
C D	18	Hy.	10 cm.	12 cm.	2 hrs.	1.66 D
E F	30	Hy. and Astig. Presby.	12 cm.	13 cm.	3 hrs.	0.56 D
G H	45	Em. Myopic	22 cm.	25 cm.	2 hrs.	0.54 P M
I J	63	1¼ D			4 hrs.	0.00

Its cyclopegic effect may therefore be eliminated, and nothing is left but its mydriatic effect. I found this in every case quite decided enough for all purposes. Even compared with atropin in one or two cases I could not see that the latter drug offered any noticeable advantage, and I now therefore depend more and

more upon euphthalmin for diagnostic purposes. Probably for routine use, especially in the hands of the general practitioner, the 5 per cent. solution is strong enough, as Vossius (Deutsche Med. Wochenschrift, 1898, No. 38) uses a 2 per cent.; Darien (La Clinique Ophthal, April, 1899), Schneider (Zeitschrift für pract. Aerzte, March 15, 1898), and Jackson (Ophthal. Record, July, 1899) a 5 per cent. solution. My own conclusions, independently reached, agree most gratifyingly with those of Treutler and Winselmann. To epitomize with them, therefore, I assert:

1. Euphthalmin (5 to 10 per cent. solution) produces no subjective symptoms.

2. It causes practically only mydriasis, pronounced but of short duration, which shows itself, as a rule, in 30 minutes; earlier, therefore, than in other drugs.

3. Its effect shows itself earlier in youth than in old age, but the difference is negligible.

4. It has no effect on ocular tension; at least no contrary reports have as yet appeared.

5. It causes no hyperemia or ischemia of conjunctiva, nor has it any effect on corneal epithelium.

6. Its influence on accommodation, especially in such cases as the general practitioner would most probably use it, is absent.

7. The normal condition of pupil is rapidly restored.

8. It is apparently nonpoisonous.

For the general practitioner, for the neurologist and for office or bedside use of the ophthalmologist, I cannot say enough to praise the use of euphthalmin.

Papain and Bismuth. — The following useful application of papain in indicated gastric trouble is taken from a recent prescription file:

R.	Bismuth. salicyl.....	6.0
	Natr. bicarbon.....	10.0
	Papaini.....	1.25
	Extr. Nuc. vomic. spir....	0.1
	Extr. Hyoscyam.....	0.4

M. f. pulv. div. in part. xii.
Sig: Take one three times daily.

Recent Medicaments.

Sidonal is the trade name for a new uric acid solvent; *i.e.*, piperazin quinate. The *Pharmac. Centralhalle*, No. 12, 1900, reports that Blumenthal gave the compound in doses of 5 to 8 grammes per day, and observed a diminution of uric acid.

Nirvanin, a product of orthoform, is used in 10% solution as a local anaesthetic. It is said to be ten times less poisonous than cocaine and three times less than eucaine. It is distinctly antiseptic and, even in 1% solution, is permanent. It can be boiled without injury.

Sodium Cacodylate is given hypodermically by Gautier, *Progres Mèdical* according to the following formula.

R	Sodii cacodylatis	6.04
	Ac. carbolici	.03
	Alcohol	.30
	Aq. dest. ad	100.

Heat to boiling point and add destilled water to original volume. 1 cc. contains sodium cacodylic acid corresponding to 5 centigrams of the pure cacodylic acid. Repeat every day for eight or ten days, then intermit for the same length of time. Employed for the introduction of arsenic, in organic combination, into the system.

Sodium Eosinate.—Bourneville and Chapotin, *Le Progrés Medical*, have used this salt in ten cases of epilepsy, in doses of from 1 to 3 grams, the smaller dose being comparatively inefficient. While the frequency of convulsions was decreased, after six or eight weeks, toxic symptoms ensued, consisting of edema of the face and hands, with dilatation of the arterioles, superficial ulceration, especially about the nails, which were shed. In this connection, it may be said that almost all remedies that control epileptic seizures—without curing the disease—do so by a general depressing effect which may readily pass the limits of safety. For this reason considerable conservatism should be observed in employing any new drug suggested for this purpose.

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A. L. BENEDICT, A. M., M. D., - - - EDITOR,
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Editorial.

THE METRIC SYSTEM AGAIN.

The *Philadelphia Medical Journal* has lately contained some discussion of the metric system, and one or two correspondents have endorsed "the eminently practical method," long advocated with some modification of detail, which depends on thinking in grains, writing in grams and ordering the total to be divided into fifteen equal parts. It seems to us that such a method, instead of being eminently practical, is simply an example of fetichism. We are reminded of the manufacturing pharmacist who a year or two ago littered some parts of the country with circulars descriptive of "Oleum Morrhua Compositus," evidently thinking there was some mysterious efficacy in Latin, even if it was incorrect. The person who essays to learn a foreign language by the literal translation of one word into another, ignoring grammatic construction, idioms and pronunciation, has gone through a great deal of mental drudgery and has practically nothing to show for his pains. The physician who thinks in grains, writes in grams, and virtually requires the druggist to think backward for him, puts himself to considerable trouble for nothing.

The scientific advantages of exact correspondence between units of weight, volume and length possessed by the metric system are of little practical use in prescription writing, nor is there any virtue in the metric system, in and of itself. From a personal experience of ten years with the metric system, after a previous use of the apothecary's, we are prepared to vouch for the simplicity and convenience of the decimal system. But we can very readily imagine that older and more conservative men might, from long custom, use the apothecary's weights and measures to better advantage, just as pounds, shillings and pence persisted for some years after the adoption of our decimal monetary system. "The eminently practical method" advocated in our esteemed contemporary's columns is an excellent compromise for such as are too old to learn the metric system and yet wish to give it their support, but we object to the futility of teaching this method to students. If the decimal system is not adapted to the needs of those not hampered by familiarity with the lack of system pertaining to older tables of denominate numbers, the sooner it is dropped the better.

The best and simplest way for anyone not familiar with the metric system to acquire facility in its use is to study dose-values. The milligram represents the approximate dose of drugs of the highest toxicity, such as atropine. There is probably no chemic substance, unless the organic toxines, which could not be given with safety in this dose to a healthy adult, and only a very few, like curarin and hyoscine, whose average, standard, adult dose is less than a milligram. The milder alkaloids, such as morphine, pilocarpine and cocaine, range about the centigram. The most poisonous metals and metaloids, such as arsenic, phosphorus and mercuricum, intermediate alkaloids like strychnine, etc., lie between the milligram and the centigram. Comparatively non-toxic metals, such as bismuth, sodium and potassium, and the milder synthetic nervines range about the gram. Saline and oleagin-

ous cathartics are usually given in from 10 to 20 gram doses.

In writing prescriptions there can be no confusion if we remember that the gram (including the cubic centimeter or fluid gram) corresponds to the dollar, the centigram to the cent, the milligram to the mill, and use the decimal point or line precisely as in making a statement of an account. It is simpler and safer to order for pills, suppositories and all other separate pharmaceutic preparations, the amount of each ingredient for each piece, directing the druggist that "Fiant pululae (capsulae, suppositoria, etc.) tales No. x (xx, etc.)."

For liquid prescriptions for external use we simply write in percentages, remembering that 1000 c.c. corresponds to a quart. For ointments the amount will vary from 25 to 100 grams, according to the surface to be covered. Internal prescriptions are commonly measured in teaspoonfuls, an old, worn spoon holding about 4 c.c., a new one 5 c.c., or in tablespoonfuls, containing 15 to 20 c.c., according as the spoon is level or heaped. Thus, the entire prescription will be for 10, 20, 30, etc., times the dose-measure, and each ingredient will be multiplied in the same manner.

A SPLENDID PROGRAMME.

Of late years the sentiment that more attention should be paid to therapeutics has grown rapidly in favor. As a separate branch of medical science, the study of materia medica and therapeutics was long sadly neglected, and only of recent years has it received increasing and deserved attention in our medical schools. In the American Medical Association the Section on Materia Medica, Pharmacy and Therapeutics is, we believe, the youngest; but although established only a few years ago, this Section promptly became a favorite, and has contributed its full share to the interest of late meetings.

We understand that unusual efforts have been made this year to present a programme that will be notable, both in the number and excellence of the papers to be read, and in the arrangements for discussion of these papers by representative men. We have secured a list of the promised papers, with an approximate arrangement, and present the programme herewith in about the form which will he followed in the meetings during the four days at Atlantic City in June, hoping that this advance announcement to our readers may prompt many of them to attend and enjoy these meetings:

FIRST DAY.

Dr. Frank Woodbury, Philadelphia: A Brief Note on Ointments.

Dr. L. F. Bishop, New York: A Plea for Greater Simplicity in Therapeutics.

Dr. F. G. Wheatley, North Abington, Mass.: The Metric System.

Dr. H. P. Loomis New York: The Treatment of Alcoholism by large doses of Digitalis.

Dr. E. W. Mitchell, Cincinnati: Treatment of Migraine.

Dr. T. D. Crothers, Hartford: Some Dangers from the Use of Narcotics in Young Persons.

Dr. T. F. Reilly, New York: Present Views on the Use of Unbroken Skin as an Absorbing Medium.

Dr. N. S. Davis, Jr., Chicago: Dietetic Treatment of Diabetes.

Dr. H. Stern, New York: Coma Diabeticum and its Treatment.

SECOND, DAY, FIRST SESSION.

Dr. L. L. Solomon, Louisville: Address of Chairman of the Section.

Dr. S. Harnsberger, Catlett, Va.: Value of Potassium Bicarbonate in Practice.

Dr. J. N. Upshur, Richmond: Heart Tonics.

Dr. Herschel Fischer, Lebanon, O.: The Neglect of Old Remedies.

Dr. J. Tracy Melvin, Saquache, Colo.: Therapeutic Progress.

Dr. A. Bernheim, Philadelphia. Idiosyncrasy against Mercury; a case of Erythema Mercuriale.

Dr. T. B. Greenley, Meadow Lawn, Ky.: Report of cases Illustrating the Value of Rectal Injection of Salt Solution in Hemorrhage.

Dr. J. H. Kellogg, Battle Creek, Mich.: The Hydriatic Treatment of Chronic Disorders.

SECOND DAY, SECOND SESSION.

Dr. S. Solis-Cohen, Philadelphia: The Role of Drugs in the Management of Consumption.

Dr. A. M. Holmes, Denver: The Importance of Early Recognition of Tuberculosis.

Dr. J. M. Allan, Kansas City: The Therapeutics of Croupous Pneumonia.

Dr. J. C. Lange, Pittsburgh: The Therapy of Malignant Cases of the Acute Infections:

Dr. Louis J. Lautenbach, Philadelphia: Increasing the Value of Cod liver Oil by the Addition of Free Iodine and Phosphorus.

Dr. Chas. Lyman Greene, St. Paul: The Treatment of Chronic Interstitial Nephritis.

Dr. F. L. Shattuck, Boston: Treatment of Gastric and Doudenal Ulcer.

THIRD DAY, FIRST SESSION.

Dr. M. C. O'Brien, New York: Chills from Obscure Causes.

Dr. Leonard Corning, New York: The Therapeutics of Vertigo.

Dr. J. C. Culbertson, Cincinnati: Psychic Therapeutics.

Dr. James Tyson, Philadelphia: Action of Chloralose as a Hypnotic.

Dr. J. M. Anders, Philadelphia: Gastro-Intestinal Remedies in Typhoid Fever.

THIRD DAY, SECOND SESSION.

Dr. H. A. Hare, Philadelphia: The Relative Value of Various Forms of Local Treatment in Erysipelas.

Dr. J. V. Shoemaker, Philadelphia: The Treatment of Addison's Disease, with Case.

Dr. H. Stern, New York: Dietetic Treatment of Cyclic Albuminuria.

Dr. Geo. F. Butler, Chicago: Pharmaco-Physiologic Action of Drugs as Contrasted with their Alleged Specific Action.

Dr. W. H. Thomson, New York: Classifications of Medicines Based on the Time Required to Produce their Effects.

Dr. O. T. Osborne, New Haven: The Therapeutic Application of the Organic Extracts.

Dr. J. H. Musser, Philadelphia: Use of Adhesive Plaster in Various Internal Conditions.

Dr. C. D. Spivak, Denver: Lavage of the Stomach as a Therapeutic Measure in the Treatment of Constipation.

Dr. Geo. J. Lochboehler, Washington: Irrigation of the Colon as a Therapeutic Measure.

Dr. D. R. Brower, Chicago: A Protest Against the Use of Patented Synthetics and Proprietary Remedies.

Dr. J. W. Wainright, New York: Symposium of the Newer Remedies, Including their Chemistry, Physiological Action and Therapeutical Applications, together with New Applications of some of the Older Remedies.

FOURTH DAY, FIRST SESSION.

Dr. L. E. Sayre, Lawrence, Kas.: Decadence of the Crude Drug.

Dr. E. M. Houghton, Detroit: The Pharmacological Assay of Drugs and Its Importance in Therapeutics.

Dr. A. R. L. Dohme, Baltimore: What Standardization Means for the Physician.

Dr. J. P. Remington, Philadelphia: United States Pharmacopeia of 1900.

Dr. A. L. Benedict, Buffalo: The Pharmacopeia, the Medical Journal and the Profession.

Dr. F. E. Stewart, New York: Pharmacology and Ethics.

From first to last these papers are interesting by title, and they will, no doubt, in the reading and discussions, justify every expectation of an interesting and profitable meeting. We present our compliments to the officers of this Section on securing so admirable a programme, and wish them the fullest possible success in carrying their session along, with general enthusiasm and large attendances to reward their efforts.

THERAPEUTIC BRIEFS.

— Aluminium chlorid., five grains *t. i. d.*, lessens the lightning pains and sometimes improves the gait of tabetics.—*Lancet.*

— T. J. Mays, *Phila. Med. Jour.*, injects ⅓ c.c. of a 2½ per cent. solution of silver nitrate, under cocaine anesthesia, for phthisis.

— Pearse, *Kansas City Med. Index-Lancet*, corroborates Massey's claim as to the value of mercury carried into cancers by cataphoresis.

—Vigier, *Jour. de Med. de Paris*, suggests the following for chapped hands, lips, etc.:

℞ Ac. tannici..... 1
Glycerini..... 40
Hydrolatum rosae.....ad 200

— Crile, of Cleveland, recommends for a wax of proper consistence to stop hemorrhage from the diploe in skull operations, a ten per cent. mixture of olive oil and beeswax.—*Med. Record.*

— Richet and Toulouse, *Brit. Med. Jour.*, advise diminishing the amount of common salt taken by epileptics, so as to cause more rapid absorption of bromides and other saline medicines. They report relatively great effect from small dosage.

— Harnsberger, *Phila. Med. Jour.*, has used pilocarpine for gonorrheal orchitis in man and for traumatic orchitis in dogs with great relief. He also commends it in cholelithiasis, hiccough, intestinal stricture and obstruction. To remove ranula he injects one centigram.

— Kutner, *Berl. klin. Woch.*, describes a method of administering mercury by inhalation. The apparatus consists of a box connected with a tube and mask. Mercury is rubbed over the surface of the box and the latter is kept at a temperature high enough to secure volatilization.

— H. Lau, *Med. Press*, uses compresses wet with alcohol in the treatment of psoriasis; 2 per cent. of salicylic acid is added. The compresses are applied at night and the area scrubbed with soap suds in the morning. If the skin becomes chapped, this treatment is intermitted and a lanolin ointment is used.

— A. Mann, *Jour. de Med. de Paris*, uses the cinnamate of sodium by intravenous injection, the dose varying from .05 (¾ gr.) of a 1 per cent. solution to .15 2½ grs.) of a 5 per cent. solution. The treatment is repeated every two days, with gradual increase of dose. The chief indication is tuberculosis.

— Charles H. LaWall, *News*, states that 75 per cent. of the efficient officinal drugs grow around Philadelphia, and that 50 per cent. are hawked about the streets by ignorant venders, chiefly negroes. 69 officinal drugs are indigenous to Philadelphia, of which 47 were noted as sold by venders. 45 non-officinal drugs and 45 herbs of doubtful medicinal powers were also sold.

—J. L. Wiggins, *Chicago Railway Surgeon*, employs desiccated epithelium for skin grafting. The epithelium is obtained by scraping the sole after antiseptic precautions, is triturated in a mortar at 110° F. und is sowed over the granulating surface, being protected with rubber tissue. He claims as good results as from ordinary methods of grafting. But think of the decline of heroism.

—Zweig, quoted in *Albany Med. Annals*, treats the dysphagia of esophageal stricture by lavage of the upper part of the esophagus, followed by the introduction of 50 c.c. of olive oil, perhaps containing eucaine, or a watery solution of eucaine instead of the oil, while the tube is gradually withdrawn. We would urge abstention from the use of instruments in esophageal cancer, for fear of stimulating the growth of the cancer. Often semi-solid food may be used till death results from asthenia. Rectal alimentation with total rest of the esophagus and stomach sometimes has a favorable effect in allowing the stricture to relax by the subsidence of inflammatory processes.

—Chas. Raymond Carpenter, of Leavenworth, Kas., has a long article in the *Med. Record* of Feb. 17, 1900, on the use of splenic extract in typhoid. His argument is that typhoid like other fevers should show a protective leucocytosis and that it does so at the very beginning—a point which may be disputed—but that the spleen itself, the citadel of the leucocytic forces, being involved, the system is unable to protect itself against the disease. He claims, as others have done, that the value of the Brand treatment is that it causes leucocytosis, and denies that the leucocytosis thus produced is superficial as it has been explained by Cabot and others. He thinks that some of the benefits of the milk diet are due to the nuclein contained. Here again, some would object, first, that milk does not contain a notable amount of nuclein, and, secondly, that milk diet does not produce conspicuously good results. But he states that other glandular extracts than those of the spleen, while rich in nuclein, do not have a marked effect in typhoid, and that the secret of success is the nutrition of this vital and essentially diseased organ. While not sustaining his point by clinical evidence, his argument is worthy of serious consideration. Regarding leucocytosis, it may be said that previous attempts to modify disease, such as diphtheria, by artificially increasing the leucocytes by pilocarpine for instance, have not proved successful, and it is doubtful how far the leucocytic antagonism of disease may be used as a basis for practical medicine.

Current Literature.

Symposium on Tuberculosis.—(Abstract from *Int. Med. Mag.*) Dr. Joseph McFarland: Tuberculin is prepared by cultivating the bacilli at 37° C. on glycerine-bouillon, for about 6 weeks; after disinfection by steam for ½ hour, the mixture is concentrated by evaporation to one-tenth, and is filtered through asbestos wool or other similar fine material. This constitutes crude tuberculin. Refined tuberculin (Koch) is made by repeated alcoholic precipitation from the crude. The crude is often protected by carbolic acid, the refined deteriorates rapidly in aqueous solution. While several grams produce no reaction in a healthy cow, a tuberculous animal shows a rise of at least 2° F. from ½ gram. A considerable dose, injected into a healthy man, produces malaise, slight acceleration of pulse, slight rise of temperature and cough. A few milligrams in a tuberculous subject produces more marked but similar symptoms. Local, visible lesions become congested and degenerated, so that lupus may be destroyed by the systemic effects. A necropsy six weeks after an injection showed the persistence of local changes in the tubercles. On account of this action the use of tuberculin is dangerous in advanced cases. Tuberculin does not produce immunity, and the local reaction, instead of leading to eradication, favors the dissemination of the disease. Experiments on animals show no benefit. Peptones, albumoses, and a number of other substances produce reactions similar to that of tuberculin. Antiphthisin and tuberculocidin seem to be practically identical with dilute crude and precipitated tuberculin, respectively. Oxytuberculin, in which the toxic properties of tuberculin are supposed to have been destroyed by hydrogen peroxid, has neither immunizing nor curative powers.

Tuberculin-R is a 1 per cent. suspension of pulverized portions of bacilli, not soluble in glycerine. It has decided immunizing powers though it would be dangerous to non-tubercular patients, as infection with tuberculosis may be produced. Still, its use in human beings has not been brilliant. The various serums are derived from different animals and good results have been claimed for them.

Dr. Jay F. Schamberg, in regard to skin tuberculosis, advises extirpation with as little scarring as possible, using knife, curet or caustics, as well as general treatment. Finsen, of Copenhagen, has reported good results with concentrated rays of light.

Dr. Boardman Reed, in regard to tubercular ulcerations of the alimentary canal, advises the use of an injection containing ½ gm. of carbolic acid, 4 ccm. of glycerine and 1 liter water for stubborn, fetid diarrhea with tenderness over the colon. The solution is injected alternate days, with normal salt injections in the interims. If there is deficient HCl, it may be stimulated by carbolic acid or creosote by the mouth, while cod liver oil may be used to diminish hydrochloric acidity. Fats in general reduce HCl. It is a great error to attempt to force food on the patient beyond what can be oxidized.

A clipping from the *Memphis Medical Monthly* relates to Biers's treatment of early joint tuberculosis. Congestion and excess of CO_2 is brought about by bandaging the limb for periods of ten minutes to an hour, several times a day, only the return circulation being obstructed. If considerable relief is not afforded in two or three applications, tuberculosis may be excluded. Trudeau, Denison, von Ruck, Whittaker, and others are quoted to oppose McFarland's attitude against the therapeutic use of tuberculin. Whittaker gives the safe dose as $^1/_{100}$ of a milligram. McFarland holds that doses which do not produce decided effects—that is, harm—do no good.

We have omitted much excellent material, which consists in reviews of well known methods, as well as parts without the province of the Therapist.

The Home Treatment of Consumption.—*The Physican and Surgeon*, editorially says: Dr. William Osler recently presented a paper on this subject before the Johns Hopkins Hospital Medical Society, and conveyed a number of practical points that should be published world-wide. After stating that in ninety-five per cent. of the cases seen by physicans, the patients are unable to afford treatment away from their homes, he says: "Arrest or cure of tuberculosis is a question entirely of nutrition, and of the measures by which the general nutrition of the body may be encouraged, the first and most important is fresh air. The quality of the fresh air in our large cities may not be very good, but it is the best that a large proportion of our patients can get to breathe, and it is a great deal better than the atmosphere of the overheated, ill-ventillated rooms in which many of them live." He advised as follows: "Take the almanac and count off the hours of sunshine. In winter cut off two hours in the morning and one hour in the evening, and for the rest of the day the patient must be out of doors. If there is no possible arrangement for life out of doors, the patient must be put in a room with southern exposure, and the bed moved into the sunshine with the windows wide open. If there is a balcony or veranda with a good outlook toward the south, it should be arranged for the patient; if not, a shelter can be put up in the yard at a very moderate cost. On a well paded lounge covered with a couple thicknesses of blankets, the patient sits or reclines all day. Only on blustery, stormy or very rainy days is the patient to remain in the house. No degree of cold is a contraindication. This continuous open-air life at rest is the most powerful influence we possess today against the fever of tuberculosis. Secondly, we must consider the diet. In any long series of cases the patients who do well are those who take plenty of food. Each case must be dealt with separately, but as large a quantity of food as possible should be given, even when possible insisting on overfeeding or stuffing." The above directions agree with the most approved modern principles relating to the treatment of this disease, and their adoption is strongly urged.

Treatment of Consumption.—Dr. C. A. Bryce, in a characteristic old-fashioned and blunt article on Consumption, pithily summarizes his views as follows:

The physican who reduces the pulse to normal and keeps it there, who procures rest and nutrition for his patient, and who insists upon the fact that sunshine, exercise, occupation, and improved surroundings are the things, will come nearer curing his cases than the most expert microscopist and germ hunter on the globe. The bacillus tuberculosis doesn't like to live where good rich blood flows, where oxygen and sunshine abounds, and where the spirits are bouyant and elastic. The physician must see after the whole patient, —his stomach, skin, mind,—the whole make-up of him—and not just one pathological condition.

Symposium on Suprarenal Extract.—In the Medical Society of the County of New York (abstracted from official report, published in *Med. Record*), Dr. B. Moore, Professor of Physiology at Yale, spoke of the history of Addison's disease and of experiments with suprarenal abstract. The rise of blood pressure is due to direct action on the arterioles.

Dr. Lucien Howe, of Buffalo, reported on modes of preserving aqueous extracts. None was thoroughly satisfactory. The glycerine 35 per cent. solution kept well, but was unsuited to ophthalmologic practice.

Dr. W. H. Bates stated that the action was not cumulative, that it was not through the nervous system, that it was not anesthetic, that out of 2000 cases there has been no subsequent dilatution of blood vessels. However, in treating hemorrhage it might be necessary to re-

peat the dose every two hours. He concluded (1) that it was the most powerful astringent and styptic known; (2) that it was useful in congestions and inflammations of all parts; (3) that it was the most powerful heart stimulant though not materially altering normal heart action and blood pressure.

Dr. H. L. Swain, of New Haven, spoke regarding the use of the extract in laryngology. Obviously, chronically dilated and paralyzed vessels could not be made to contract, but in turbinal swellings, hyperesthetic conditions, hay fever, etc., it was efficient as a spray. Internally, in hay fever, it had been disappointing. Neither tolerance nor habit was established.

Dr. Solomon Solis Cohen, of Philadelphia, spoke on its adaptability in asthma. In asthma due to vasomotor ataxia, and in subjects liable to urticaria and to exacerations from change of climate, it had been especially useful. It was not a specific for all forms of asthma.

Dr. H. Beaman Douglass spoke enthusiastically of the benefit derived in hay fever, advocating both internal and local use by spraying fresh aqueous extracts.

Dr. H. Holbrook Curtis advised the use of an aqueous solution, 1:16, in the larynx for edema, inflammation and congestions. Hydrogen peroxide rendered the extract inert.

Dr. J. A. Moore spoke from an experience of more than 200 urethral cases. He preferred injecting the thick, unfiltered, aqueous mixture, 10 per cent. strength. It would relieve the muscular spasm of stricture and the pain of acute gonorrhea, as well as other inflammatory conditions.

Dr. E. Larue Vansant corroborated the value of the extract in throat, nose and ear work. He objected to the spray as liable to leave putrescible debris, preferring the swab.

Dr. R. H. Cunningham had succeeded in removing one gland from the dog and in ligating off the other. In one dog, kept alive two years, microscopic examination had showed that the remaining gland had entirely atrophied. He verified from manometer experiments the statement that normal blood pressure is not altered by the extract.

Dr. R. C. Myles had used the powder in the nose for two years and had seen no sign of sepsis. He had had secondary hemorrhage after its use, but had operated on bleeders successfully with its aid.

Dr. Wendell C. Phillips had used the solution of the extract to control hemorrhage after removal of the auditory ossicles, and with good results.

Dr. F. E. Hopkins, of Springfield, reported that he had encountered secondary hemorrhage more frequently than after cocaine.

The Use of Suprarenal Capsule Extract in Surgery of the Ear, Nose and Throat. —Dr. W. W. Bulette, in *Denver Medical Times*, Nov. 1899 (Laryngoscope, March, 1900) says: In his experience with suprarenal extract there has been little secondary hemorrhage after its use, not so much postoperative swelling, and the healing process is much more rapid than where cocaine is used alone. He is of the opinion from actual trials, that local anesthesia cannot be induced with cocaine and the extract by the aid of cataphoresis as thoroughly by other methods of applying these drugs, and further that cataphoresis induces hemorrhage. He has seen no unpleasant systemic effects from the use of the extract, but on the contrary has observed fewer cases of cocaine toxemia than formerly.

Iron in Heart Disease.—Dr. W. H. Thomson, of Roosevelt Hospital, in a paper which is full of the most valuable "Points in Therapeutics of Heart Diseases" (read before the Jersey City Practitioners' Club, *Medical Record*, March 17, 1900), says: "Among drugs, I never fail to administer iron as soon as I can, and keep it up continuously in chronic heart disease, because the one business of iron in our blood is to help us breathe."

For Coughs.—

R. Heroin..... gr. $\frac{1}{16}$
Ammon. hypophos ... gr. iij.
Hyoscyami..... gr. i.
Pin. alb. cort..... gr. iiiss.
Bals. tolutan..... gr. $\frac{1}{4}$
Glycerini puri..... ʒ i.
M. S. For dose.

—*Med. Record*, March 3, 1900, from *Ex.*

The Effect of Codeine on Coughs,—The *Medical Record* (March 3, 1900) quotes the following from an article by Dr. G. J. Lochboehler in the *Journal A. M. A.* (Dec. 2, 1900): In epidemic bronchitis codeine is a valuable remedy for the relief of the harassing pain of the cough, and when combined with one of the coal-tar antipyretics the analgesic effects become more pronounced. It is a favorite drug in the cough of phthisis and chronic bronchitis, and its sedative influence is highly satisfactory, clinical data having shown it to be the best succedaneum for opium. Another advantage of codeine over morphine, one of special value in bronchial catarrh, is that the patients not only cough less but also expectorate more easily than after morphine. The cough-dispelling power of codeine is such as to make it indispensable in phthisical patients, and a point of great importance in these cases is that it does not impair the appetite or digestion, and can therefore be used uninterruptedly for months.

Measles and its Treatment.—Dr. Marcus P. Hatfield, of Chicago, furnishes an interesting and rather instructive monograph on measles in the *Medical Standard*, April, 1900, from which we quote this practical summary of treatment:

As measles is a self-limited disease our chief duty is to keep our patients warm in bed and keep on watch for threatened complications. There is a great dread of cool drinks during the feverish stage, so that the child is usually kept upon hot saffron tea or other teas, but personally I have never seen any ill effects from allowing them to drink freely of cool—not iced—lemonade or flaxseed tea with lemon ad lib. A temperature of 103 to 104 deg., with accompanying headache, can be greatly alleviated by two to three grain doses of phenacetin or lactophenin. For the annoying cough, I prefer a modified Wood's cough mixture:

R. Liq. pot. citratis..... cc. 30
Syrupi ipecac..... " 5
Tinct. opii camph..... " 10
Succ. limon..... " 15
Syr. tolutan..... " 60
M. Sig: Teaspoonful every 2 hours—H.

If the bowels are constipated, or there is much headache, dilute hydrobromic acid may be substituted for the paregoric in the above mixture, and if necessary minute doses of codeine may be alternated with the cough mixture to relieve the harassing cough. Cod liver oil with syrup of iodide of iron should be used wherever enlarged bronchial glands are suspected, and persisted in until the tendency to recurrent colds is overcome.

Prophylaxis is usually inefficient, as probably the prodromal stage of measles is the most contagious. Others think the urine is the usual carrier of contagion. Quarantine for the sake of the child is not usually long enough, and it should be remembered that exposure to cold during convalescence is the usual cause of unfortunate sequelæ.

Deafness Due to Mumps.—*The Laryngoscope*, quoting from an editiorial in the *N. Y. Med. Journal* (Dec. 16, 1900) says: In a short note upon this subject, referring to an article which had appeared in the *Gazetta des hôpitaux*, it is stated that the pathogeny remains obscure, and most authors think there is a sanguineous effusion into the labyrinth. Treatment is of no avail as regards the power of hearing, but the vertigo may be benefitted by the use of quinine. Dr. E. D. Spears, of Boston, however, believes that we may avert such a dismal sequel, by placing the patient in bed, and employing subcutaneous injections of pilocarpin. He thinks that many cases of effusion into the labyrinth can be and have been cured by this treatment.

Apomorphine as a Hypnotic.—Douglas (*N. Y. Med. Jour.—Medical Standard*, April 1900) says that he has found no remedy that is as near an approach to a perfect hypnotic as apomorphine, although its value for this purpose is generally overlooked. It should be given in small doses, short of producing emesis. One-thirtieth of a grain injected subcutaneously is the average dose, although susceptibility varies somewhat. Given in this quantity it is entirely harmless. Under ordinary circumstances it is best administered after the patient is in bed, although in active delirium no attention need be paid to this rule, since the patient will voluntarily lie down in a few minutes after the remedy has been injected. If the dose is of suitable size the patient will fall asleep in from five to twenty-five minutes. If no effect is produced within half an hour the dose was too small. The direct hypnotic action lasts for one or two hours, but the patient will usually continue to sleep once quiet is produced.

Hyoscine Hydrobromate in Chorea.—Hyoscine hydrobromate has been tried by A. C. Rendle, of Madras, India (*Brit. Med. Jour.*, No. 2013, 1899), on a bad case of chorea in a youth of 16 years. He was thin and anemic; the temperature was slightly raised; the tongue was dry and coated with a brownish fur; the pulse was weak and the respirations irregular; there were constant involuntary movements. Albumin was present in his urine. Potassium bromide, chloral hydrate, and increasing doses of arsenic gave no relief. He was very restless at night, and morphine eased him slightly. Hyoscine hydrobromate doses of $^1/_{200}$ of a grain was injected hypodermically twice a day. On the day following the first injection there was marked improvement in the choreal movements. The dose was increased to $^1/_{100}$ of a grain and given three times a day. In a week the movements had almost entirely ceased. The hydrobromate was then discontinued and the arsenic treatment resumed. The patient made an excellent recovery. Chorea is an extremely fatal disease in India.—*Alienist and Neurolgist.—Pediatrics*, April, 1900.

Santonin in the Treatment of Epilepsy.—*The Medical Review* (March 10th, 1900) quotes from an article in the *Therapeutic Gazette* (Feb., 1900): G. Frank Lydston, Chicago, after twenty years' experience in prescribing santonin for epilepsy, arrives at the following conclusions: (1) Upon the average, epileptic patients show better results under santonin than under the bromides; (2) santonin acts well in cases in which the bromides for one reason or other are not tolerated at all; (3) santonin gives distinctly beneficial results where the bromides fail altogether; (4) santonin is free from injurious effects, which cannot be said of bromides. If santonin is given in the dosage prescribed by text-books on materia medica and therapeutics, only disappointment can result. The author's custom is to begin in the adult with a dose of from 2 to 5 grains of the powdered drug, uncombined. The dose is gradually increased up to the point of tolerance. Many patients tolerate 20-grain doses three times daily for some weeks. As a rule the dose is gradually increased to about 15 grains three or four times daily. The peculiar twitchings about the mouth said to be characteristic of the physiologic action of santonin have not occurred in the adult in his experience. He suspects that in many cases in which this phenomenon is observed in children it should be attributed, not to the drug, but to the disease for which it has been prescribed. The best criterion of the tolerance of the drug has been its action on the genito-urinary tract. Coincident with an intensely yellow coloration of the urine is a varying degree of irritation of the kidney and of the mucous membrance of the bladder; frequent and painful micturition is the most important clinical feature. Caution is necessary in the administration of so powerful a drug. Bromides may be given in conjunction or alternation with the santonin.

Book Notices.

Atlas of Internal Medicine and Clinical Diagnosis. By Dr. Chr. Jakob, of Erlangen. Edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Attending Physician to the Philadelphia Hospital. 68 colored plates, and 64 illusirations in the text. Cloth, $3.00. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

This is one of the series of Hand-Atlases which Mr. Saunders, with exceptional enterprise, has made available for American physicians. We have spoken in previous notices of other volumes of this series of the beauty of the illustrations; the present work is in every respect equal to its companions in the scientific accuracy and beautiful finish of the plates, as well as in the translation and editorial work. It is a practical work of reference, stating facts tersely and then illustrating them unmistakably. The general practitioner will find this volume particularly serviceable, and not the least so in Section IV, Special Pathology and Treatment, in which facts and suggestions are admirably epitomized for ready application.

A Text-book of Obstetrics. By Barton Cooke Hirst, Professor of Obstetrics in the University of Pennsylvania. 8vo. 846 pages, with 643 illustrations and 7 colored plates. Cloth, $5.00. Philadelphia: W. B. Saunders, 925 Walnut St.

An extensive practice limited to obstetrics, twelve years' active service in the principal hospitals of Philadelphia, and long experience as a teacher of obstetrics, have established the author as a recognized authority and fully equipped him to write a work which seems excellent on first examination, and more than justifies expectations on closer study.

Without going into details, it seems certain that the arrangement of the work is well-planned; the text is clear and graceful in style, and is elucidated by a lavish introduction of illustrations—and good illustrations at that. An unusual and notable feature of the work is the liberal reference to authorities, thus enhancing its value as an authority and bringing the whole subject right up to-date; moreover, besides increasing its usefulness for the earnest student, the book thereby assumes place also as a work of reference for the active practitioner. In short, it is a practical, comprehensive and modern book, which merits popularity and wide adoption.

Recollectons of a Rebel Surgeon; or, "In the Doctor's Happy Days." By Dr. F. E. Daniel, editor of the *Texas Medical Journal*, Austin, Texas. Von Boeckmann, Schutze & Co., Austin, 1899. 264 pages, illustrated, red cloth.

It is seldom that a physician takes up the pen to describe the non-scientific but fascinating and sociologically or historically valuable episodes with which professional life teems. "Ne sutor ultra crepidam" has been too literally the motto of physicians. It is inevitable that when one does make an exception to this rule, his work lacks the ear-marks of the literary specialist, the man who writes about things of which he pretends to know little. Dr. Daniel's book is a collection of doctors' stories, written in the colloquial style which we should expect and wish. We of the younger and more active generation can scarcely imagine a duplication of the causes and events of the Civil War. As a people, we lack the recklessness of emotion which caused the last generation to risk life and money with lavish willingness, on account of differences of belief. Thus, of all the vast library of books dealing with that great conflict, we can scarcely afford to spare one, and this production of Dr. Daniel, dealing with the less prominent medical aspect of the less exploited side of the conflict, fills a gap and will be both of present interest and of future historic value. We have had the assistance in this review of a northern officer who fought in some of the engagements of Dr. Daniel's stories. His appreciation of the correctness of the author's setting, should be added to our own of the interest of the stories themselves.

Injuries to the Eye in their Medico-legal Aspect. Dr. S. Baudry, Lille, France; translation and adaptation to American law by Dr. Alfred James Ostheimer, Dr. Charles A. Oliver and Charles Sinkler, Esq., of Philadelphia. F. A. Davis Co., Philadelphia, New York and Chicago, 1900. 159 pages including bibliography and index. (Price, $1.00.)

This is a valuable book of reference not only for the ophthalmologist but for the general practitioner who is so frequently called upon to give a prognosis when the eye is injured. While the original intention—the medico-legal aspest—is maintained, there is a vast fund of information relative to the various forms of injury, well illustrated by cases cited in detail. The American editor has included cases and opinions of well known men in this country in addition to the extensive bibliography of the author. While the description of some tests for simulated affections of the eyes are meagre in detail, it is sufficient as it pre-supposes some technical knowledge of the subject discussed. The index is complete and a valuable addition to the work.

Nervous and Mental Diseases. By Dr. Charles S. Potts, Atlantic City. 455 pages, including index and 88 engravings. (Series of Pocket Text Books edited by Dr. Bern B. Gallaudet, New York.) Philadelphia: Lea Brothers & Co., 1900.

This series is bound in red cloth and is, in all respects, a credit to the publishers' art. The carping critic might object to the name of the series as no ordinary garment contains a pocket large enough to accommodate these books; however, they are of convenient size for the shelf and the hand. We would particularly commend the way in which the physiology of the nervous system is handled; there being a lucid and well illustrated description of nervous physiology in connexion with each topic, instead of in mass at the beginning of the book. There is no waste of words, tables of differential diagnosis are freely used, and therapy is summed up in brief. While by no means the kind of book that aims to give the ignorant physican a chance to brush up on diagnosis and treatment on the nickel-in-the-slot plan, it is well adapted to use as a reference work, as well as for systematic study.

The Iris, published by the students of the University of Buffalo, 1900.

This, the third annual issue, is a handsomely printed, clothbound book of some 250 pages, copiously illustrated. Although the University consists only of professional schools, Medicine, Pharmacy, Law and Dentistry, the Iris has the spirit of the college annual, and the student organizations, including fraternities, indicate how thoroughly the modern professional student is becoming a college boy. Although books present the lighter side of student life, one can read between the lines of the Iris, a story of serious effort, of wholesome, clean, harmonious undergraduate years and, best of all, of mutual confidence between students and faculty. The latter have, at the request of the former, shared to some degree in the preparation of the book, and even the grinds betoken good fellowship.

Our readers will be interested to know that the dental department, though the newest, is second in attendance only to the medical and, having a three years' course, instead of four, will graduate after the present class, as many as or more than the medical. That one of the newest dental schools should attract so many students is evidence of its high standing. In this fact also, we note a hopeful tendency toward a relief of the enormous congestion in our own profession. As further evidence of this tendency, it is to be noted that the medical department has made quality, not quantity, its watchword, the senior class, representing also a considerable increment from the merged medical school of Niagara University, numbering only 58. If all medical schools would follow this principle, we should see, within a decade or two, a diminution in our numbers so that the supply of physicians would no longer be far in excess of the possible demand for their services.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

*SUGAR, AS SUCH, IN THE DIETARY OF DYSPEPTICS.**

By WILLIAM GERRY MORGAN, M.D.,

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Some months ago the reports of Vaughan Harley, of Mosso, and of Schumberg, upon the results obtained by them with the ergograph upon persons who were feeding upon greater or lesser amounts of sugar came to my notice. I was impressed while reading these most interesting reports with three facts, first: with the harmony of the conclusions reached by these investigators. Secondly: that these conclusions were, almost without exception, in favor of the use of cane sugar as a food, and in amounts heretofore considered injurious; and finally, that which impressed me most was the entire absence of any apparent attempt upon the part of these investigators to determine the effect upon the digestion of the large amounts of sugar which they advise to be added to the daily dietary of all classes of individuals from infancy to old age.

Harley deduces the following conclusions from the results of his most interesting series of experiments:

1. "The periods of digestion as well as the kinds of food taken have a marked influence on the voluntary muscular energy."

2. "Irrespective of the influence of foods there is a periodical diurnal rise and fall in the power of performing muscular work."

3. "More work can be done after than before the midday meal."

4. "The minimum amount of muscular power is in the morning about 9 a. m., the maximum about three in the afternoon."

5. "Regular muscular exercise not only increases the size and power of the muscles, but has the effect of markedly delaying the approach of fatigue."

6. "The amount of work performed upon a diet of sugar alone is almost equal to that obtained on a full diet; fatigue, however, sets in sooner."

7. "In fasting large quantities of sugar (500 grms.) can increase the power of coing muscular work during thirty voluntary contractions from 23 to 36 per cent. While the total gain in a day's work may be 62 to 76 per cent., the time before fatigue sets in being also lengthened."

8. "The effect of sugar is so great that when added to a small meal it can increase the muscular power during thirty voluntary contractions from 9 to 21 per cent., while the total increase in work may be from 6 to 39 per cent., and the approach of fatigue being at the same time retarded."

9. "When added to a large mixed meal sugar can increase the muscular power of thirty contractions 2 to 7 per cent., and a marked increased resistance to fatigue is shown."

10. "250 grams of sugar taken in addition to a full diet increases the day's work. The work accomplished during thirty voluntary muscular contractions shows a gain of from 6 to 28 per cent., the total day's work giving an increase of

* Read before the American Gastro-Enterological Association, May 1, 1900.—Contributed exclusively to the AMERICAN THERAPIST.

power 9 to 36 per cent., and the time before fatigue sets in being lengthened."

11. "Sugar taken early in the evening is capable of oblitering the diurnal fall in muscular power that occurs at this time, and increases the resistance to fatigue."

In closing he further says: "The results obtained from this series of experiments show that the addition of large quantities of sugar to an ordinary diet is of the greatest nutritive value, and I think they prove that sugar should no longer be regarded as a mere condiment, but looked upon as one of the most useful articles of food."

While he mentioned casually in passing that after being upon 500 grams of sugar daily for some time his digestion was somewhat disturbed, yet he failed to give any specific information upon this most interesting and important phase of the sugar question. It was this lack of definite information concerning the effects of sugar upon the gastric secretions which led me to look up the literature of the subject. While there are hundreds of articles upon sugars, yet I failed to find a single article bearing upon the particular phase under consideration. (Since this paper was written the report of Professor Strauss' experiments along this same line has come to my notice. His results are quite in harmony with those obtained by me in these series of experiments.) I therefore decided to undertake a series of experiments to determine the effect of cane sugar upon the gastric secretions of indiuiduals both in health and when suffering from pronounced gastric disturbances. (The results of which are herewith respectfully submitted.)

These experiments have been conducted in the most painstaking and careful manner, and every means possible was taken to prevent error from creeping in. The results from the chemical and microscopical examinations were verified repeatedly with each specimen.

I have made several series of experiments upon several different individuals suffering from hyperchlohydria, with gastritis chronica mucusa, and with achylia gastrica, and the results obtained in the different cases were very constant.

Experiments made for the Purpose of Determining the Effect of Sugar upon Gastric Digestion.

Series I. This series of experiments was conducted upon a healthy, vigorous male laborer, with a good appetite and sound digestion.

J. T., male, aged 37, well developed, well nourihed and muscular. Weight 152 pounds. Has never been ill in his life, so far as he knows, and has always enjoyed a good digestion.

Examination of the urine: amount in twenty-four hours 1,620 c.c.; color amber; sp. gr. 1021; acid reaction; albumen and sugar absent; amount of urea in 24 hours 29.49 grms.; microscopy negative.

Gastric function: One hour after an Ewald test breakfast the filtrate showed acid reaction; F. HCL present; total acidity 50; amount F. HCL 40; rennet and pepsin present; peptone present in large amounts; pro-peptone present in small amounts. Mucus and lactic acid absent.

Bowels: There is no flatulency; bowels move once daily; feces are normal in appearance; microscopy negative; amount in 24 hours 152 grms.

Experiment 1. On the following day, after the foregoing examinations were made, he was given, in addition to his usual diet, 90 grms. of cane sugar and 180 grms. of maple syrup daily. This diet was continued for five full days, after which time another series of observations were made. Weight 152½ pounds upon the same scales, with the same clothing, and at the same period of the day.

Subjective sensations: He has some distress in the epigastrium one or two evenings soon after dinner, which passed away in a short time. Has had an increased appetite. More food has been eaten at each meal and more water and tea drunk than before beginning the ex-

periment. Has had no pyrosis, belching or water-brash. He volunteered the remark that he had not been as tired at night after his day's work as before, and was quite positive in this statement. He does not care for sweet foods, and never uses sugar in any way, when left to his own inclination, and does not seem willing to continue the sugar regime any longer. At this time the urine was as follows: amount for 24 hours 1860 c.c.; color amber; acid reaction; sp. gr. 1022; sugar and albumen absent; urea in 24 hours 39.2 grms.

Gastric function: Examination one hour after Ewald test breakfast, from which, as usual, sugar was excluded, acid reaction; EHCL 12.5; toal acidity 25; erythrodextrin present; achroodextrin present; sugar present; rennetzymogen and pepsinogen present; peptone absent; propeptone a trace; lactic acid and mucus absent.

Bowels moved daily; feces normal in appearance, rather soft; amount in 24 hours 157 grms.; microscopical examination showed considerable undigested animal and vegitable matter.

Experiment 2. After a period of five days upon his usual diet, which is free from an excess of sugar, he was given an Ewald test breakfast, and after one hour it was removed and examined. The results from this examination tally almost exactly with those of the first examination. Acid reaction; total acidity 50.5; F. HCL 41; rennet and pepsin present; peptone present; propeptone present in small amounts; mucus and lactic acid absent.

Experiment 3. On the very next morning, in addition to the usual Ewald breakfast, he was given 90 grms. of a pudding made of corn-starch, eggs and milk boiled for thirty minutes and then cooled. One hour after eating, the contents of the stomach were removed and examined, with the following result: reaction acid; F. HCL present; total acidity 32.5; F. HCL 5; peptone present; propeptone absent; rennet and pepsin present; achroodextrin and maltose present; lactic acid and mucus absent.

Experiment 4. On the following morning another test breakfast was given, and in addition to the usual Ewald breakfast, 10.3 grams of cane sugar was added; this being the amount of sugar which is added to the regular daily meal rations of the soldiers in the English army. One hour after, the gastric contents were removed and examined: reaction acid; total acidity 30; F. HCL 20; erythrodextrin present; dextrin absent; sugar present; rennet and pepsin present; peptone absent; propeptone present; lactic acid and mucus absent.

Experiment 5. A day or two after this I gave another meal similar to the one before, which contained 10.3 grms. of sugar, but added to it 90 grms. of maple syrup, and at the end of an hour removed the gastric contents, which showed: acid reaction; F. HCL present; total acidity 25; F. HCL 12.5; dextrin present; erythrodextrin present in larger amounts than before, sugar present; rennet present; pepsinogen present; peptone absent; propeptone present in small amounts; lactic and mucus absent.

The above experiments which constitute the first series seem to indicate by the results obtained that a large amount of sugar given to a healthy person and continued for five days diminishes the total acidity, and also the F. HCL. In this instance the total acidity was decreased from 50 to 25, and the F. HCL from 40 to 12.5. A return to the usual diet for the same number of days increases the acidity to the normal amount again.

The three test breakfasts given in experiments 3, 4, and 5 gave similar but varying results. To the first was added a pudding containing corn-starch, eggs and milk. To the second 10.3 grms. of cane sugar and to the third 10.3 grms. of cane sugar and 90 grms. of maple syrup. In each experiment the total acidity and the F. HCL was very much less than the amount obtained after the usual test breakfast.

TABLE I.

Showing the results of the analysis of the gastric filtrate and examinations for feces in the first series of experiments.

	Amount of Sugar.	Total Acidity.	Free HCl.	Enzymes.	Peptone	Propeptone	Starch Digestion.	Lactic Acid.	Mucus.	Feces.
Trial test.	None.	50	40	Present	Present	Present in small amt's.	Achroodextrin present, maltose absent.	Absent	Absent	Normal, no undigested matter.
Experiment I.	90grms.cane sugar and 180 grms. maple syrup	25	12.5	Present	Absent	Present as a trace.	Achroodextrin, maltose present.	Absent	Absent	Much undigested animal matter.
Experiment II.	None.	Results same as in Trial test.								No indigested animal matter.
Experiment III.	90 grms. of corn-starch pudding.	32.5	5	Present	Present	Absent	Erythrodextrin, achroodextrin, maltose present.	Absent	Absent	Undigested animal matter.
Experiment IV.	10.3 grms. cane sugar.	30	20	Present	Absent	Present	Erythrodextrin in large amounts.	Absent	Absent	Undigested animal matter.
Experiment V.	10.3 grms. cane sugar and 90 grms. maple syrup	25	12.5	Present	Absent	Present	Dextrin and erythrodextrin present.	Absent	Absent	Much undigested animal matter.

Series II. For my second series of experiments I selected a man suffering from a marked case of hyperchlohydria.

J. L., aged 54 years, fairly well nourished and muscular. Weight 150 pounds.

Subjective sensations: He is intensely nervous and apprehensive of some malignant disease; feels "a throbbing" in the pit of the stomach, which is more severe three or four hours after meals; belches constantly; has a pain about the heart; has marked pyrosis and water-brash; appetite excellent.

The urine: Amount in 24 hours 1902 c.c.; color amber; sp. gr. 1023; amount of urea in 24 hours 44. grms.; no sugar or albumen present.

Examination of gastric contents one hour after taking an Ewald test breakfast: reaction acid; F. HCL present; total acidity 115; F. HCL 1000; dextrin present; erythrodextrin absent; peptone present; propeptone absent; rennet and pepsin present; mucus and lactic acid absent.

Bowels are constipated: feces are hard and dry, but otherwise normal in appearance; amount in 24 hours 96 grms. Several examinations were made at different times during the next ten days or two weeks, and always with the same results as given. On the tenth day the result was as follows: total acidity 117.5; F. HCL 112.5; pepsin and rennet present; peptone present; propeptone trace; dextrin and erythrodextrin present; lactic acid and mucus absent.

Experiment 1. After finding that the condition of the gastric secretions described above was quite constant, he was given daily with each meal 12 grms. of

powdered cane sugar, to which was added just sufficient aromatic powder to disguise its nature. He was not aware that he was taking sugar. In addition to this he took one teaspoonful of granulated sugar in his tea and coffee, as had been his custom. He continued this diet for a period of seven days, when I requested him to take the Ewald test breakfast. One hour later, when examined, the gastric filtrate showed: acid reaction; F. HCL present; total acidity 100; F. HCL 90. Unfortunately, before I had completed the examination of the filtrate, it was thrown out by mistake. No examination of the urine or feces was made.

Experiment 2. The patient was now instructed to double the dose of powder, and was asked to add to his diet morning and night (with meals), a small saucerful of maple syrup eaten with bread. This he did for ten days, at which time the gastric contents were examined one hour after an Ewald test breakfast, with the following results: reaction acid; total acidity 65; F. HCL 60; erythrodextrin present; achroodextrin present in larger amounts; maltose present; rennet and pepsin present in small amounts; lactic acid and mucus absent.

Subjective sensations: The "throbbing" in the pit of the stomach had ceased. The pyrosis has passed away for the most part. He belches very little. Has no water-brash. Has increased pain and distress around the heart. Appetite remains good. Weight 154½ pounds. He says he feels stronger and works with less fatigue when he is taking the "spice powder," and thinks it is doing him good. Urine was not examined.

The bowels moved once daily for eight days, and twice on the remaining two days. The feces were soft, of light yellow color and showed upon microscopic examination some shreds of undigested animal matter. Amount in 24 hours 120 grms.

Experiment III. The same diet as during the preceding ten days, which contained 24 grms. of cane sugar and a saucerful of maple syrup, was continued for another week, when another examination of the gastric contents one hour after an Ewald test breakfast was made. Weight at this time 154 pounds.

Subjective sensations: feels badly; pain and distress about the heart is more marked; feels as if it would relieve him to belch but is unable to do so; is thirsty; appetite is very poor; has had no pyrosis for the past week; has some headache; "throbbing" in the pit of the stomach has been slight; unfortunately he forgot to bring to my office a specimen of his urine.

Examination of the gastric contents: reaction acid: total acidity 60; F. HCL 40; erythrodextrin present; sugar present; rennet and pepsin psesent; peptone absent; propeptone present in large amounts; lactic acid and mucus absent.

Bowels have been loose, with one afternoon several semi-solid movements; has had a great deal of flatulency; the feces were normal in appearance and weighed 123 grains; microscopic examination showed undigested animal matter in considerable amounts.

Experiment 4. In order to determine whether the sugar which was being taken in addition to the usual diet was responsible for the depression of the gastric secretions revealed by the repeated examinations described above, I requested the patient to stop the aromatic powder and the syrup as well, and further, to avoid even the sugar used in his tea and coffee, and to return at the end of seven days, and to eat at that time the conventional test breakfast. This he carried out rigidly. The following are the results of my observations at that time: weight 154 pounds; appetite somewhat improved; thirst less marked; feels very badly; "the throbbing" in the pit of the stomach has again increased; he has belched very much more during the past week, and has had marked pyrosis, which came on about two hours after meals. He still complains of pain and distress around the

heart, and appears nervous and fears sudden death from heart disease.

The urine: amount in 24 hours 1160 c.c.; reaction acid; color amber; specific gravity 1022; albumen and sugar absent; amount of urea in 24 hours 13.8 grms.

Examination of the gastric contents at the usual time: reaction acid; total acidity 100; F. HCL 90; dextrin present; erythrodextrin present in larger amounts than before; maltose and sugar absent; rennet and pepsin present; peptone present; propeptone absent; lactic acid and mucus absent. Microscopic examination showed principally starch granules and debris.

The bowels have moved daily; feces being hard and dry. Amount in 24 hours 82 grms.

Experiment 5. A day or two after this last examination he resumed the sugar and syrup with his regular diet, and in addition he was given after each meal 30 grms. of French brandy, with just sufficient compound tincture of gentian to disguise it. This dietic regime was followed for seven days, when another test was made, with rather unexpected results.

Subjective sensations: He felt worse during the past week than at any other period of the experiments; has had a bad taste in the mouth all the time; has oft-recurring pains over the stomach; constant marked pyrosis coming on from 15 to 30 minutes after meals and lasting two or more hours. He has no belching; "throbbing" in the pit of the rtomach has continued; has no appetite; has been thirsty at night; the pain and distress around the heart was worse after meals; weight 157½ pounds.

Urine: amount in 24 hours 1850 c.c.; reaction acid; sp. gr. 1018; amount of urea in 24 hours 32.19 grms.; no sugar or albumen present.

Gastric filtrate at the usual time showed a decided difference from the previous examinations when upon a similar diet. The reaction was acid; total acidity 105; F. HCL 87.5; dextrin present; erythrodextrin present in larger amounts; sugar and maltose absent; peptone a trace; pro-peptone present in large amounts; rennet and pepsin present; lactic acid and mucus absent.

Bowels moved irregularly, one day would be no action, and the next day there would be from 2 to four semi-liquid actions. There was little or no flatulency. The feces were not examined as the patient failed to bring them to my office.

Experiment 6. To ascertain just how far the alcohol was concerned in the differences in the results of the series of experiments which I had been carrying on, I went one step further with this patient. He was induced to keep on with the same diet of the previous week, with the single exception of omitting the brandy. On the seventh morning thereafter the conditions were as follows:

The urine: amount in 24 hours 1550 c.c.; color amber; sp. gr. 1019; reaction acid; sugar and albumen absent; urea in 24 hours 30.2 grms.

Gastric contents showed acid reaction; F. HCL present; total acidity 80; F. HCL 60; dextrin present in small amounts; erythrodextrin in large amounts; rennet and pepsin present; peptone absent; propeptone present; lactic acid and mucus absent.

This examination proves beyond a reasonable doubt, I think, that alcohol in the form of brandy was the cause of the difference in the results obtained in the two examinations.

[TO BE CONCLUDED.]

FERRATIN IN NEURASTHENIA.—Dr. L. C. Gray, in an article in the *Medical News*, Dec. 16, 1899, in reviewing the list of available and useful tonics to be employed in treating neurasthenia, includes the following prescription:

℞ Ferratin gr. iij
Strychnine sulphatis gr. 1-30th.
Ft. in capsul. No. 1. Mitte xv.
S. One three times a day just after meals.

The above dose of 3 grains is intended to overcome "a moderate degree of anemia;" the average adult dose, in cases of chlorosis, anemia, malnutrition, convalescence, etc., is 7½ grains. A prompt effect of ferratin is the marked increase of appetite, setting in from the first dose.

*THE OCCURRENCE OF MOULD IN THE STOMACH AND ITS PROBABLE SIGNIFICANCE.**

By MAX EINHORN, M.D., New York,
Professor in the New York Post-Graduate Medical School and Hospital, New York.

The part which micro-organisms (bacteria and mould fungi) play in the occurrence of pathologic processes in the stomach has been variously interpreted by authors. Most clinicians ascribe no special significance to them. Others, however, assign them a prominent place.

The mould fungus, as such, has been but little mentioned in the domain of gastric affections.

Mould itself, recognizable by microscopic examination and with the naked eye, has not as yet been observed cinically in the stomach. At any rate no mention of this occurs in literature.

I have had occasion to observe several cases of mould formation in the stomach, and it seems to me worth while to discuss the object somewhat more fully.

In the cases under my observation there were found in the wash-water of the empty stomach small, sometimes blackish-grey and sometimes brownish-green flakes (2 to 5 millimeters in diameter), in varying number (4 to 50 and more). The microscopic examination showed that these flocculi consisted entirely of spores and mycelia and scarcely anything else. Similar flocculi were found in the same patient in the gastric contents after a test meal, and the microscope showed the same picture as the flocculi in the empty stomach.

Sometimes these blackish-grey masses are imbedded in mucus. We then note, besides these fungus colonies, mucous corpuscles and numerous epithelial cells. This indicates an intimate connection between the fungus colonies and the surface of the mucous membrane. The former must adhere quite closely to the latter and perhaps even proliferate into the epithelial layer. This firm adhesion must be assumed for the following reasons: If the fungi were only an accidental admixture of the ingesta—that is, introduced with the latter and then carried further onward, without there being any fungus proliferation, then they would only be encountered in the gastric contents after meals, but not in the fasting state of the patient—that is, where no food is found. As a matter of fact, however, in the cases referred to these flocculi occur in large number, principally in the empty stomach.

Are these mould fungi, present in the stomach, still in a living condition, or are they destroyed by the action of the gastric juice? In answer to this question it can be said that the mould colonies retain their full vitality and are capable of further development. If the flocculi are placed in some water or in the filtrate of the gastric contents of the patient, it is soon noticed that there is a formation of whitish-grey clouds which are connected with the flocculi, and under the microscope show spore colonies and mycelia of very similar character as the original mould.

After these introductory remarks permit me to describe in detail a few of the cases that came under my observation.

Case I.—Hyperchlorhydria, with periodical continuous gastro-succorrhea. Oct., 1899. Wm. R., 38 years old, has suffered for four years with periodical vomiting of two to four days' duration. While at first the attacks of vomiting occurred about once in four or five months, they increased to such an extent in the third year of the disease that they appeared every three to four weeks. Since then the patient has no longer felt well during the interval between the attacks, being constantly troubled about two hours after meals with intense heartburn and gastric pains; constipation was also present in a marked degree. The patient had lost about thirty pounds in weight. At this time he first came under my treatment. A careful examination showed the presence of hyperchlorhydria, with continuous gastro-suc-

* Read before the American Gastro-Enterological Association, May 1, 1900. — From the *Medical Review*, May 5, 1900.

corrhea occurring periodically. He was placed upon proper diet and treated with sodium bromide and alkalies. During ten months he remained free from the attacks of vomiting, after which they recurred in the same manner as previously. The patient consulted me again during such an attack.

Status Praesens: The patient appears well nourished but somewhat pale; nothing abnormal can be discovered in the thoracic organs; the gastric region is somewhat sensitive to pressure; the knee phenomenon is present; the urine is free from albumin and sugar.

In the fasting state about 50 c.c. gastric juice mixed with some bile is found. During the following irrigation of the stomach small greenish flakes in considerable number (about 20 to 30) are observed in the wash-water. I first thought that these were small mucous flakes which had absorbed biliary coloring matter, but the microscopic examination showed that this was not the case, but that the shreds consisted entirely of round spores and mycelia.

Case II.—Hyperchlorhydria. February 18, 1900. T. M., 22 years old, had suffered since six years with digestive disturbances; he was troubled with frequent belching; the tongue was always coated, and he often had a bad taste in the mouth in the morning. One-half to two hours after meals a feeling of burning frequently appeared in the pit of the stomach, and the patient had a sensation as if he had swallowed a foreign body. He also often experienced a raw feeling in the throat, with repeated hawking. The bowels were always regular; the appetite good; no loss in weight.

Status Praesens: The patient is of vigorous build and well nourished; the tongue is covered with a greenish-grey coating; the thoracic organs showed normal conditions; in the abdomen nothing abnormal can be discovered; the knee phenomenon is intact; the urine is free from sugar and albumin.

Examination of the stomach one hour after the test breakfast shows: HCl + acidity = 76; free HCl = 56. The chyme contains small greenish flakes similar to parsley in small number (about four such shreds on the filter). Microscopically these presented the appearance of being either small particles of green vegetables or mucous flocculi which had taken up biliary coloring matter. Microscopic examination showed, however, that these flakes represented fungi colonies, consisting of spores and mycelia.

The patient was examined on the following morning in the fasting state; the stomach contained no ingesta, but a slight quantity (20 c.c.) gastric juice. After lavage was performed the wash-water contained a considerable number (50 to 60) of the above described greenish flakes; there was a small quantity of mucus.

The patient was treated with bicarbonate of sodium and with gastric irrigation, in connection with a spray of silver nitrate. His condition improved—that is, the subjective symptoms diminished, and about fourteen days after commencing treatment the irrigating fluid contained either no greenish flakes or only a scanty number. A small amount of yellowish-brown mucus, however, is almost always present in the wash-water, and in this epithelial cells and spores (probably from fungi) can be demonstrated.

Case III.—Hyperchlorhydria. March 15, 1900. George D., 48 years old, had always enjoyed good health until about a year ago, when he began to suffer with digestive disturbances. At first the pains appeared some time after eating, and later they were now and then accompanied by vomiting. The appetite at the beginning was undisturbed, later impaired; the bowels were sluggish; taste in the mouth frequently sour. During the course of the disease the patient had lost 45 pounds in weight, and felt weak and restless.

Status Praesens: The patient is of vigorous build, but appears pale and debilitated; the tongue is markedly coated; the thora-

cic organs are normal; examination of the abdomen discloses a slight sensitiveness to pressure in the gastric region, the presence of splashing sounds, which can be produced down to the navel, and the absence of any tumor. The knee reflexes are present; the urine contains neither sugar nor albumin.

Examination of the stomach one hour after the test breakfast shows: HCl + acidity = 104; free HCl = 80. In the fasting state the stomach is found empty. In the irrigating water numerous mould flocculi are present, as determined microscopically.

The patient was treated several days with gastric lavage and alkalies; in addition he was placed on a light diet, with frequent meals. His condition improved; the pains diminished; the vomiting ceased, and he began to gain in weight. After three weeks' treatment no mould pellicle can be discovered in the stomach.

Case IV.—Gastritis glandularis chronica and gastric erosions. January 12, 1900. Leop. C., 29 years old, has been troubled for two years with dyspeptic symptoms, a feeling of pressure, and slight pains in the gastric region one-half hour after meals, frequent eructations and slight constipation. The patient has kept up a strict diet during this time, and has lost twenty pounds in weight, while the disturbances remained unchanged.

Status Praesens: Patient appears pale; mucous membrane of the lips and cheeks is anemic; tongue is only slightly coated; the thoracic organs are normal; palpation of the abdomen elicits a slight sensitiveness to pressure in the epigastric region.

Examination of the stomach one hour after test breakfast shows: HCl + acidity = 24; considerable quantity of mucus and two blackish-green flakes, which on microscopic examination are found to consist of spores and mould fungi. In the fasting state the stomach is found empty; the wash-water contains, however, an abundance of these mould floccules (20 to 30) and besides four small pieces of mucous membrane. The same finding was repeatedly determined, with the exception that after longer treatment, which consisted of gastric irrigation and spraying with silver nitrate solutions, the mucous fragments and also the mould floccules appeared in lesser numbers.

The patient felt better; was more vigorous and experienced fewer disturbances. He is not, however, yet entirely free from pains.

Aside from the above described observations, I have observed mould in the stomach in two other instances. In one there was a decided hyperchlorhydria; in the other an atony of the stomach, with quite normal chemical processes and gastralgias. Both patients were not long under observation, so that I am not sufficiently informed as to the subsequent course of the cases.

That the greyish-green or greyish-black flakes, which were found, represented mould pellicles was established beyond doubt by the microscopic examination. An extremely large number of spores and mycelia was always observed. In all my cases the microscopic picture was the same, and it can therefore be assumed that the mould fungi present belonged to one and the same species. In order to determine the latter point, I have given a few of these greenish shreds to Dr. E. K. Dunham, and it affords me much pleasure to add his report.

If now we return to our cases in which mould fungi were frequently found in the stomach, the question comes up: What significance have these mould fungi in gastric pathology? Although isolated fungi may exist in the stomach for a short time without any detriment, they do not find in the normal organ favorable soil for further development. They are intimately mixed with the chyme and are carried onward, living or dead, through the pylorus. Entire colonies of fungi which are microscopically perceptible are never to be found in the normal stomach. Any considerable growth of mould would be

possible only if a colony of the fungi had infested a fold of the surface of the gastric mucous membrane and had become so firmly adherent that they were not carried along with the onward passage of the chyme. Under these circumstances a fungus colony may grow undisturbed, and considerable areas of the gastric mucosa may become covered with mould. In our above described cases such a condition must have prevailed. In lavage of the stomach the inflowing current of water exerts considerable force and tears many mould islets from their bases, so that they then appear in the wash-water.

It is scarcely conceivable that such a mould coating of certain zones of the gastric mucosa can be unattended with disturbances of the functions of the organ. Condition of irrigation, as well as inflammatory processes, might be expected *a priori* from the mechanical action of the mould.

After these theoretical conclusions it would be profitable to analyze more closely the cases that have been described and to elucidate whether the mould formation was in a causative relationship to the symptoms of the disease. The decision of this question is, however, very difficult, because *post hoc* is not always the *ergo propter hoc.* We have met with the mould formation particularly in two groups of gastric affections; first in cases of intense hyperchlorhydria, occasionally attended with hypersecretion and vomiting; and second, in gastralgia with normal or reduced gastric secretion. It cannot be denied that in many of these cases the mould flakes became smaller or disappeared after gastric lavage, followed by spraying with one or two per mille solutions of nitrate of silver. In connection with this a subjective improvement could be observed in the condition of the patient. Yet it cannot be said with certainty that the mould produced the existing pathologic process in the stomach, for we find cases analogous in every respect without the presence of mould fungi. Notwithstanding this it appears plausible that these mould fungi are connected to a certain extent with the above mentioned abnormal conditions; and even if they are not the cause of these they undoubtedly increase their severity.

The occurrence of mould in the stomach in large masses must therefore be considered of importance from a therapeutic standpoint; hence it must be our endeovor to free the stomach from them as soon as possible. This is best done through irrigation of the stomach in the fasting state of the patient. This acts in a purely mechanical manner, since the mould flakes are removed with the water. The use of the gastric douche might also have a favorable influence in this direction. Following this the application of an antiseptic solution of silver nitrate with a spray appears likewise of some utility. Aside from the therapeutic measures just described, the treatment of these cases must be directed in accordance with the special disease present.

Euphthalmin.—Of the three effects, says Dr. Albert B. Hale, of local applications to the eye (omitting cautery of astringency)—anesthesia, mydriasis, cycloplegia—many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a 5 to 10 per cent. watery solution. Here the author gave tables and cited authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupil for study of lens and fundus. Conclusions: (1) No subjective symptoms produced; (2) only mydriasis caused, of short duration, beginning in thirty minutes; (3) effects shown earlier in youth than age; (4) ocular tension not increased; (5) no hyperemia or ischemia of conjunctiva produced, corneal epithelium unaffected; (6) accommodation practically unaffected; (7) normal pupil soon restored; (8) non-poisonous apparently.—*Medical Times.*

*MANAGEMENT OF ACUTE RHEUMATISM IN CHILDREN.**

By Louis Starr, M. D., of Philadelphia.

A child affected with acute rheumatism should be put to bed in a properly heated and well ventilated and lighted room, and so kept at perfect rest until not only the acute symptoms have subsided but the pulse has become normal in character and frequency; in other words, until all danger of cardiac complication be surely passed. During the acute stage, marked by fever and painful swollen joints, the diet must be restricted to liquids; thus at 6 years, fivefluid-ounces of milk guarded by one fluid-ounce of lime water, and four fluid-ounces of weak mutton or chicken broth may be given alternately every two hours, and cool (not cold) Poland or lithia water should be allowed in moderate quantities at frequent intervals. Regular evacuation of the bowels is important. If a laxative be necessary the salined are best suited; for example, one teaspoonful of Husband's magnesia in a fluid-ounce of lemonade given early in the morning. In the special treatment, liq. postassii citratis, in doses of one to two teaspoonfuls every two hours during both day and night, if the patient is wakeful, may be made the basis; to the first six daily doses of this, one, two or three grains of salophen or salicylate of sodium must be added, the dose depending upon the age of the child and severity of the symtoms. It is best to order the salophen or salicylate in powder form, and add to each dose of the citrate at the time of administration, as the total quantity can thus be more easily varied in accord with daily requirements; salophen is more readily tolerated by the stomach; the salicylate is more active therapeutically. If the pulse be too frequent or feeble, tincture of digitalis should be employed, beginging with one drop every two hours, and if there be restlessness and sleeplessness from pain, deodorized tincture of opium may be very cautiously administered—two drops every two hours for three doses for a child of six years; both the digitalis and opium should be given with the basal citrate of potassium solution. Antipyrine, phenacetine, or allied preparations, should not be used in acute rheumatism either to reduce fever or relieve pain, as their cardiac-depresent action is dangerous. Warm camphorated oil or laudanum and olive oil (℥ j to ℥ j) are useful local applications, and the affected joints should be swathed in cotton batting or enveloped in flannel bandages.

During convalescence, and for some time after, careful feeding is necessary; the following is an appropriate diet schedule: Breakfast 8 A. M. Milk 7 fluidounces, Vichy water (domestic), 1 fluidounce (one or two portions); one or two yolks of soft boiled eggs with salt, or a bit of fresh fish or sweetbread; bran or whole wheat bread, dry. Dinner 1:30 P. M. A teacupful of clear meat broth; a bit of chicken, turkey, wild fowl or fish; one well-cooked green vegetable, i. e., spinach, young onions, cauliflower; dry bran or whole-wheat bread; junket or rice-and milk pudding. Supper 6:30 P. M. Milk as a first meal; sweetbread or milk toast; dry bran or whole-wheat bread. For drink, Poland or Vichy water (domestic); use either freely. Avoid fats, starches, sweats and red meats, i. e., beef or mutton.

Tonics are essential aids in restoring strength. The best are tincture of nux vomica, drops 1 to 3 preceding, and Basham's mixture, 1 to 2 teaspoonfuls following each meal.

* Quoted from "A Symposium on Rheumatism n Children," in *Medical Fortnightly*, April, 1900.

Treatment of Constipation in Children. —Sevestre gives the following decoction to combat constipation in children:

℞ Boiling water	200.0	grammes
Manna	30.0	"
Senna leaves	4.0	"
Roasted coffee in powder	10.0	"

Strain. Take during the day.

—*Gaz. des Hopitaux*, Jan., 1900—*Pediatrics.*

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR, BUFFALO, N. Y.

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Editorial.

DIETETIC HINTS WITH SPECIAL REFERENCE TO BREAD-STUFFS.

We have included in this issue a considerable mass of extracts bearing on the subject of diet. We believe that, thanks to the hereditary lore of nurses and the teachings of amiable ladies who have made more or less of a specialty of cooking for the sick, there is a too prevalent idea that diet consists of administering various pappy substances entirely different from those commonly eaten by healthy persons. With the obvious exceptions of many relishes and even nutritious substances containing an excess of waste matter or actually harmful chemic substances, there is no reason why the invalid should be fed upon food essentially different from that used by the individual in health. To be sure, he must submit to many curtailments, as of the drugs, tea, coffee and chocolate, of improper modes of cooking, as frying, of unwholesome compounds like pie and some cakes, of putrefying "tender" meat, of fermentable vegetables and of foods otherwise bacterially suspicious—not to mention minor special contraindications.

With comparatively few exceptions, we believe that the staples of diet for an invalid should include small quautities of broiled or roast meat—small, not in the physiologic sense but as compared with the habitual excessive consumption of meat by the average healthy American. Fruit pulp and juice, free from seeds, skin, core, etc., may usually be given. Milk is an important item but it should be administered cooked and in some combination, as the various forms of custard. Aside from custards, eggs may be allowed soft boiled. By the way, it is a curious fact that the Germans have no word for custard.* Gelatin may usually be used as a basis of desserts and sponge cake and Angel food, as well as well-baked cookies may be allowed. Iced preparations are almost universally allowable, if the same ingredients would be proper un-iced. Ice-cream, however, made of impure milk or containing an excess of sugar, corn-starch or other adulerants, is objectionable.

The editor of the *Medical Times*, some months ago, called attention to the dietetic value of bread and butter, aptly terming them the "staff of life" and its golden head. Most bread-stuffs contain nine or ten per cent. proteid, one or two per cent. of fats, fifty-five to seventy per cent. of carbohydrate. Some crackers contain relatively large amounts of fat but these are usually eaten without butter, whereas to bread, toast, etc., are added enough butter to bring the total of fat nearly or quite up to the total of proteid. Mineral matters, except perhaps salt and iron, are present in sufficient amount. Thus, the bread-stuff with its added butter, supplies all the organic food needed by the body except that the carbohydrates are about six times as great as the proteid, instead of four or five times. A very small allowance of fresh meat makes good this deficit while the allowance of fruit will supply needed mineral matters.

It may seem, at first thought, that a bread-and-butter diet lacks variety, but very little pains is necessary to avoid tir-

* A popular German preparation is *blanc mangé*, a close kin to custard, containing the same ingredients, with more or less cornstarch added.

ing the patient's appetite. French bread, which is practically the same as the Vienna bread introduced at the Centennial Exhibition, is now obtainable in almost every town, and is usually well liked for considerable periods. In some cities can now be had a reminder of boyhood on the farm, in the shape of "milk-emptings" or "salt-rising" bread, famed for its disgusting smell while rising, and for its delicious taste when completed. Very delicate Graham bread can be had if pains is taken not to buy mixtures of cheap flour and molasses of which most commercial "Graham" breads consist, and fine rye bread as well as other varieties are on the market. Thoroughly toasted, either served dry, or with milk or cream, the carbohydrates are dextrinized and are not only appetizing, but more easily digested than when used untoasted. Many wholesome crackers—soda, butter, hard-tack, Boston, etc.—may be used to vary the routine. Under the name of Pilot bread is sold a variety of hard-tack more easily masticated than the original, including some very delicate forms, which are practically the same as the unleavened bread, formerly to be obtained only at one brief season by the courtesy of Jewish friends. This is especially valuable when there is a tendency to lactic acid fermentation in the stomach. Of cereal preparations, to be eaten with milk, cream, butter and sugar, etc., there are many excellent kinds, containing corn, wheat, oat, and rice kernels as a base. The oats are usually to be avoided for permanent use on account of a somewhat poisonous principle, as well as because they contain more than any other cereal indigestible chaff, which sticks to the mucosa of the alimentary canal. There are some wheat preparations that are very slowly digest ible and may be washed from the stomach in particles almost like sand hours after ingestion. The special contra-indications to such preparations, in dilatation and atony of the stomach, catarrhal conditions of the stomach, caecum, appendix, etc., scarcely need mention.

THE PHARMACOPOEIAL CONVENTION.

The decennial meeting to inaugurate the next revision of the Pharmacopoeia, has just been held in Washington. Some slight friction occurred regarding the seating of delegates from local societies, but otherwise the debates, though spirited, were harmonious. At the suggestion of President H. C. Wood, the Committee of Revision was separated into a Committee of Revision Proper and a Board of five Trustees to take charge of the business of publication, etc. No decided change in the policy of representation was made nor is to be expected, but the next convention will exclude all local organizations. While it is scarcely just, in the abstract, that a college of medicine or pharmacy, perhaps of little influence, should have as great a representation as a state society or the national organizations of physicians and pharmacists, this is a matter of comparatively little importance. The proposition was offered to admit one delegate from each college of dentistry, subject to reasonable restrictions, but we are not at present aware of the fate of this proposed amendment. On the whole, the tone of the convention was conservative, though progressive. Propositions tending toward non-classic nomenclature and toward uniformity of Galenical preparations, were voted down by large majorities. Although personally in favor of the simplification of the Galenicals and uniformity of strength, we recognize the dangers of departing too freely from accepted standards and of imposing upon the Committee of Revision arbitrary and mandatory limitations. As will be seen, the Committee of Revision is an excellent and a representative one. We trust that all its members will concur in the liberal expression of Dr. Reynold W. Wilcox, to the effect that every member of the medical profession was a consultant of the committee and that suggestions would be gladly received for consideration.

The Committee on Revision appointed

in 1890, had printed a draft of a plan for revising the pharmaocpoeia, briefly as follows:

1. To admit of synthetized products of definite composition, as well as any natural product of known origin. Adopted.

2. To introduce doses, guarding against the medico-legal assumption that statements of dose should be mandatory on prescribers. After much argument, it was decided to place the doses in apothecary's units in parenthesis, after the metric dose.

3. To change nomenclature only to insure greater accuracy, or safety. The significant clause used by the committee "but not for purely abstract or scientific purposes" was struck out. In other words, the majority of those present were prepared to abandon some of the obsolete chemistry and incorrect botany of the former editions.

4. To introduce assay processes but not physiologic tests. An attempt to strike out the latter limitation was voted down.

5. To revise standards of purity and strength, with allowance for unavoidable, innocuous impurities or variations, due to particular source and mode of preparation, also gradually to tend toward uniformity with other pharmacopoeias.

6. To introduce general formulas, so far as possible.

7. To retain the metric weights and measures.

8. To prepare a supplement, whenever thought best by the committee.

This was an addendum, adopted at the session.

Several other recommendations were offered but were voted down.

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Current Literature.

COMPARATIVE DRUG VALUES AS OBSERVED IN THE TREATMENT OF 752 CASES OF WHOOPING COUGH.—Dr. Charles G. Kerley read this report before the Section on Pediatrics of the New York Academy of Medicine, Feb. 8 1900; we take the following abstract from *Pediatrics*, May, 1900:

As the cases had developed, they had been separated into groups of twenty, and were allowed to cough without treatment until the height of the paroxysmal stage had been reached, which usually required from ten to fourteen days. Careful records had been kept of most cases both night and day. The ages of the patients treated varied between six weeks and twenty-six years. Three patients only had reached adult life. Five-sixths of the patients had been under four years of age, and one-half under two years of age. The duration of the attack had ranged from three to twenty weeks, the usual duration having been between six and eight weeks. He had found that the very young and the very delicate often did not whoop durin a severe attack of whooping cough. The drug treatment consisted of insufflation, internal administrations and inhala-

tions. Resorcin and boric acid, combined with bicarbonate of soda, were used by means of insufflations in six institution cases, but had been discontinued after three days because the treatment had been impracticable and useless. Vapocresoline had been tried with absolutely no result. He had allowed it to be used in a number of cases in private practice, because it quieted the nervous patients, and did the childdren no harm. Alum, fluid extract of horse-chestnut leaves, dilute nitric, cocaine, bromoform, bromides, belladonna and antipyrin had all been tried. The first three had been used, and been found valueless. Alum had appeared to be of some service, but had been badly borne by the stomach. Bromoform had proved very unreliable. Cocaine in doses of one-tenth of a grain every four hours for a child of two years had been employed in about twenty-five cases. It had controlled the severity of the paroxysms somewhat, but not sufficiently to warrant its continuance. He had found great benefit from quinine if a large amount could be given. It was difficult to give from twelve to twenty grains of this drug daily, as required. When quinine could be given in capsules, the number and severity of the paroxysms would be remarkably controlled—sometimes the number being diminished one-third to one-half. He had used belladonna in sixty institution cases, administering it up to the physiological effect; this had required from five to seven days. He had not observed from this any influence in a single case. True, the cases upon which it had been used were very severe, but they had yielded to other means. The children had been from six to seven years of age. Equal parts of bromide of sodium, ammonium, and potassium had been tried in sixty institution cases, using from twelve to sixteen grains daily for a child of one year. The results from this treatment were better than those previously mentioned. Antipyrin had been used in sixty institution cases, and he had found that it had controlled the paroxysms better than any other drug he had employed, and caused only a trifling depression if administered with ordinary care. The combination of the bromide with antipyrin had been used in sixty cases, with better results than from using either one of these drugs independently. For a child of eight months, half a grain of antipyrin, and two grains of sodium bromide should be given every two hours for six doses, and then its administration should be discontinued for twelve hours. For a child between two and a half and four years of age, two grains of antipyrin and three or four grains of bromide should be given every two hours for twelve hours, and then discontinued for twelve hours before being resumed. The steam spray and fresh air were also useful adjuncts to the drug treatment of whooping cough. A child suffering from whooping cough should be frequently changed from one room to another, and the best possible ventilation secured. The author's conclusions were: (1) Every case of whooping cough may be relieved, either by modifying the severity, or diminishing the number of paroxysms; (2) the duration of disease is probably not shortened by treatment; (3) remedies sedative in character, with fresh air, give the best results; (4) if the remedy is to be of service, its beneficial results may be noticed within twenty-four to forty-eight hours; (5) the best results are obtained when antipyrin and bromides are commenced at the height of the paroxsmal stage and then pushed vigorously; (6) being sedative in character, the good effects may be lost in a prolonged case; and (7) children may have whooping cough and never whoop.

Treatment of Simple Appendicitis.—D'Arco Power (*British Medical Journal*, November 25th) writes as follows regarding this subject: Medical treatment may be adopted so long as the patient seems fairly well, his pulse is regular, firm, and not too rapid; if his respiration is full and painless, his belly is but little distended,

and if the stools are normal, or there is only slight constipation. It is better not to use opium in any form, because it hides the tenderness and masks the facial changes, which are the only safe indications of the course which the disease is running. As a routine treatment of a straightforward and simple case of appendicitis I have seen the best results follow the method to which Mr. Mayland has recently drawn renewed attention. It consists in the immediate administration of a copious enema of warm soap and water, followed by teaspoonful doses of magnesium sulphate in two wineglassfuls of warm water given hourly, the dose being repeated six or eight times until the bowels begin to act. A hot boric-acid fomentation or an ice-bag is applied to the right iliac region, the choice being determined by the relief which the patient obtains, though the surgeon prefers the ice-bag. The patient must be kept in bed until the swelling and all the tenderness have left the right iliac region, and he must be fed up upon food which is easily digested, that neither constipates nor forms massive stools.—*Medical Record*, March 3, 1900.

Croupous Pneumonia in Children.—*Archives of Pediatrics*, May, 1900, abstracts the following from a report by Dr. J. H. Way, in the *North Carolina Medical Journal:*

After detailing the history, symtomatology and etiology of this disease, the author states that he has seen a number of children who have had recurrent attacks. One boy who came under his observation had five different attacks of pneumonia, though otherwise in good health and a strong and vigorous boy.

In the treatment it should be recognized that there are no specifics for the disease. The child with croupous pneumonia should be put in bed in one of the best lighted and ventilated rooms of the house. The skin should be bathed in warm water, followed by an alcohol sponge. A regular temperature of 65° to 70° F. should be secured in the room, the air being moistened by the evaporation of some water. Milk with lime water or peptonized milk is for the majority of cases the ideal food. The medicinal treatment should be initiated by the administration of a mercurial. For the feverish irritation tincture of aconite in small and oft-repeated doses, in combination with spirits of nitrous ether and liquid ammonia acetatus, prove a very satisfactory plan of treatment. If there is very much restlessness, fluid Dover's powder may be added to this mixture. For cerebral symptoms, chloral hydrate is invaluable. If the respiration is unduly hurried, the cough dry and the expectoration scanty or not at all, hot baths with ipecac wine or syrup give most relief. The use of the specific antipyretics, while in sufficient doses gives a marked lowering of temperature, is mentioned only to be unhesitatingly condemned. Children bear high temperature with far less prostration than in the hyperpyrexias of adults. Just before and in the beginning of the stage of resolution, strychnia and alcohol are often of undoubted value. Carbonate and muriate of ammonia are also useful at the time of resolution. Local applications of turpentine, mustard and iodine have each their appropriate place. Quinine in convalescence becomes one of our most valued tonics. Where slight fever persists, a careful examination should also be made for a possible pyothorax.

The Treatment of Pneumonia.—The *International Medical Magazine* (May, 1900) says editorially: The International Medical Annual for 1900 contains a notable article on Pneumonia by Professor H. P. Loomis, of New York, summarizing a number of important contributions to this subject which have been made to medical literature, during the year 1899. Among these is a paper by Maragliano, concerning the treatment of pneumonia with large doses of digitalis—as much as sixty grains

in infusion during the first day, and, in severe cases, again on the second day. Petresco, of Bucharest, some ten years ago, advocated such a heroic use of digitalis in the same disease. He claimed to be able to abort pneumonia by this means within twenty-four hours, and to have reduced the death rate in a series of over one hundred cases to two per cent. Petrosco administered at first every half hour an amount of infusion of digitalis representing five grains. These doses seemed enormous, and since the assumed object, that of reducing the arterial tension, could be so much more readily effected by other remedies, in the United States, at least, this method of treating pneumonia had few or no followers. But Maragliano is now said to have demonstrated that the extraordinary efficacy of such colossal doses of digitalis in this disease is due to an antagonistic action of the remedy upon the toxins of pneumonia. He has shown by bacterial experiments that one centigram of digitalis added to ten grams of a culture of pneumococci killed them rapidly, and even three milligrams of digitalis were enough to inhibit their growth completely.

The growth of other organisms was not affected by the remedy, and other alkaloids, such as cocain, had, in similar doses, no influence on the pneumococci. Further experiments showed that digitalis injected into rabbits at the same time with a fatal dose of pneumococcus toxin neutralized its effect, insomuch that the animal survived. Maragliano insists, however, that the digitalis treatment must be begun early in order to be effective. Prof. Loomis also gives the pith of an important article by Manges on the treatment of pneumonia. The latter insists upon the need of watching carefully the stomach in this disease, seeing to it that it is not over distended with gas or food, so as to embarrass the heart. Manges also agrees with Dr. Andrew H. Smith in cautioning strongly against overfeeding pneumonia patients.

Creosotal and Duotal.—Professor G. Cornet, of Berlin, in an article on Treatment of Tuberculosis which forms a part of Nothnagel's "Special Pathology and Therapeutics," 1899, says:

"Of late years pure creosote and guaiacol have been largely displaced by the carbonic acid combinations of these drugs, creosote carbonate (creosotal) and guaiacol carbonate (duotal). The first is a thick fluid of a slightly bitter taste (decomposing in the intestine into its constituents, creosote and carbonic acid), and the latter a white, tasteless and odorless powder. Both remedies are similar in action, and both have the great advantages over creosote and guaiacol that they are much better borne by the stomach, cause neither nausea nor irritative symptoms, often increase the appetite and bodily strength, lessen the expectoration and cause a general improvement in the patient's condition. Jacob and Nordt have recently reported cases with very good results from Professor von Leyden's clinic, and my own experience leads me to coincide with their favorable judgement upon these two preparations.

Creosotal is to be administered to patients three times daily in milk, claret, beef tea, or capsules, a quarter of an hour after eating. The beginning dose is five drops, to be increased by two to five drops, until about thirty drops are taken at a dose; and the administration is to be continued for from six to eight weeks. Then the remedy should be discontinued for about a week; after which its administration may be begun again. The very large doses of from two to three teaspoonfuls which Chaumier has recommended frequently render the drug distasteful to the patient, and cause digestive disturbance. Duotal is often even better borne than creosotal, and is to be given in doses of from 0.2 to 0.5 gram (3 to 7½ grains) three times daily, gradually increasing up to a daily dose of from 1 to 2 grams (15 to 30 grains). It may be administered in capsules or wafers, or may be taken plain with the help of a mouthful of water. For children the beginning dose is 0.1 gram (1½ grains) increasing to 0.5 gram (7½ grains) thrice daily."

Antiseptic Inhalations in Pulmonary Tuberculosis.—While in general practice, we were convinced of the practical benefit of direct therapy of the lungs, and while it is only fair to admit that many eminent clinicians assign little or no value to antiseptic sprays, others consider them of great value. Dr. James A. Burroughs, of Asheville, has reported to the Tri-State Med. Ass'n of the Carolinas and Virginia (*Charlotte Med. Jour.*) his experience with 1371 cases in which the tubercle bacillus was found. The results of of treatment were as follows:

Arrested or cured -	947 cases
Benefitted - - -	321 "
Not benefitted -	72 "
Deaths - - -	31 "

Climatic, hygienic and dietetic means aided the recovery of the large number of favorable cases, yet the author's views regarding the efficacy of sprays deserve attention, especially in these days of scepticism regarding drugs.

Intra-pulmonary medication has been routine practice; it is the most logical, practical and successful medium to reach the diseased tissues.

Intra-pulmonary medication is a simple thing, all that is necessary is an air receiver, cut-off, devilbiss spray and 50 to 80 pounds pressure as you like. Have patient to completely empty lungs of air and slowly take a deep breath as you gradually press the lever of the cut-off allowing the condensed air to force the medicine, assisted by the deep breath or inhalation, down the trachea through the bronchial tubes into the very air cells.

Creosote, menthol, oil eucalyptus, oil pine needles and oil cedar are used in glymol (liquid petrolatum). It is surprising how much medicine the lungs will take up, each day approximates 1½ ounces of glymol with 15 gtts. creosote, 5 grs. menthol, and 20 to 30 gtts. of the other oils are administered in this manner. In my earlier experience much larger doses of oil of cedar and pine needles were used, resulting in several miscarriages and also producing strangury more than once in the male.

Cautions in Pediatric Practice.—Particularly in pediatric practice the educated practitioner will be on his guard against useless and irrational therapeutics. In an untried constitution he will begin with small doses and repeat them as needful. The result will be quite as sure, and the uncertainty not half so risky. He will give his coal-tar antipyretics with great circumspection, and be sure that his Dover's powder was compounded by a careful apothecary. He will not be satisfied to leave important surgical work for the nurse to undertake in his absence. She may, with the best intentions, irrigate the baby's lung instead of his stomach, or by soiling the catheter on an ill-washed gown worn with her last case of puerperal sepsis, excite a fatal cystitis. He will not forget that the popular Latin maxim about the reparative power of nature is oftenest true in children, and that a minimum of interference is called for. He will not even give a calomel triturate, till the case has been examined, and at least a probable diagnosis made. At the same time he will know that sins of omission are punishable. He will not tell the mother that the baby's running ear will "stop of itself," or give borax water for trachoma, nor let the croup case be moribund before attempting intubation. "Eternal vigilance" will mark his professional walk and conversation, and only eternal vigilance will save him, as time goes on, from many a moment of poignant self-reproach.—B. in *Carolina Medical Journal.*

Prevention, Management and Early Diagnosis of Scarlet Fever.—Abstract of a paper read before the New York Academy of Medicine, April 5, 1900, by Dr. Floyd M. Crandall, from the *Journal A. M. A.*, May 5, 1900:

Scarlet fever is peculiarly a disease in which much can be accomplished by prophylaxis. Sometimes children will be exposed quite thoroughly, even so late as after the initial vomiting, and still escape. In 90 per cent. of his cases, the period of

incubation was between two and six days. The symptom-complex of vomiting, fever, rapid pulse and sore throat, when present, made it highly probable that the disease was scarlet fever. In his experience, the vomiting was the most constant symptom of all, and had often been violent and projectile. A pulse of 150 was not unusual at the outset. The so-called "strawberry tongue," *i.e.*, a tongue in which the red papillæ show on a white ground, is not the true "strawberry tongue;" the latter, like the fruit after which it is named, has dark red dots or papillæ on a red and roughened ground. This kind of tongue is very characteristic of scarlatina, but unfortunately it is of so late occurrence that it is not of much diagnostic value. In estimating the progress of the disease, and when it will be proper to raise the quarantine, one should search with special care for desquamation around the fingers and on the hands. It is only in a very general way that the statement that the disease lasts forty days can be accepted. Another fact that should be borne in mind in this connection is that there is danger of contagion so long as there is any purulent discharge present as, for instance, a suppurative adenitis or otitis. The question of the advisability of closing the schools because of an outbreak of such a disease as scarlet fever must be decided by the character of the community. For example, in a large city like New York, the closing of the schools would bring the children more closely together, whereas in rural districts such a measure would probably keep them apart, and so tend to check the spread of the disease. When in attendance on a case of scarlet fever it is the part of prudence for the physician to wear, while in the sickroom, a cotton gown reaching from the head to the feet. This garment should be kept in the sickroom. People, as a rule, did not object to such a precaution, but on the contrary, think all the more of a physician who is so careful about the welfare of others; moreover, if scarlet fever should break out mysteriously in another of the families attended by the same physician, the latter is not so likely to be censured, or suspected of having carried the contagion. During an attack, the anointing of the body surface with some bland oil not only prevents the dissemination of the disease but soothes the patient and often reduces the temperature. However, if irritating antiseptics are employed, they are likely to do harm, and will most probably prolong the period of desquamation. Pruritus is relieved by a 5 per cent. boric acid ointment. Lard is objectionable because of its proneness to get rancid.

Urotropin.—In a very comprehensive monograph on the nature and action of urotropin, demonstrating the great value of this drug in uric acid diathesis and in diseases of the urinary passages, contributed by Professor Arthur Nicolaier, of Goettingen, to the Ebstein *Festschrift*, the author summarizes his extended experience in the following terse favorable expression: "Urotropin is efficacious in affections of the urinary passages of various kinds und origins, in the treatment of the uric acid diathesis, and also occasionionally in phosphaturia. It forms an extremely valuable addition to our therapeutic resources." The 68 page account of experimental and clinical investigation which precedes this conclusion more than justifies so moderate an endorsement. It is safe to assume that the position of urotropin as a reliable therapeutic agent is fully established by this and ennumerable other reports published during the past few years.

Internal Use of Formalin.—Saxton T. Pope, M.D., in *Occidental Medical Times*, considers formalin a non-toxic antiseptic and, though irritating, as available for internal use as potassium iodid. He employs it to prevent gastric fermentation. We quote his remarks on formalin as a urinary antiseptic:

"Preëminently is formalin active in its

capacity to antisepticize the urine. When taken into the alimentary system, it is absorbed in solution with other substances by the mucous membrane of the digestive tract and deposited in the blood. Here it can be found by means of the various tests and by its presence in the blood, it demonstrates the possibility of harmless intravenous injections, a measure towards reaching disease, that has not yet been considered experimentally but which suggests remarkable utility. From the blood it is excreted by the kidney and probably by the other excretory organs. That it can be found in the urine half an hour after ingestion is prettily shown by the decolorized fuchsin test. This test is conducted as follows: a small portion of fuchsin is permitted to dissolve sulphurous acid. At first the color is pink, later it fades completely, and the solution appears like water. Enough fuchsin is dissolved to make a solution that is strong and yet colorless. This is placed in a conical glass or test tube and a distillate of the urine is allowed to flow over the surface of the fuchsin solution, in the presence of the formaldehyde, the fuchsin regains its color and is represented by a purple ring. The depth of color and the rapidity with which it appears, is in direct proportion to the strength of the dilution of formaldehyde gas. Experimentally this test will betray the presence of formalin in a dilution of 1:50,000, though the coloring takes some hours to form. In the administration of formalin, with the object of rendering the urine septic, as much as 20 minims of formalin should be given in 24 hours. This is best given in 10-drop doses in milk, 10 drops representing 5 minims. In this excipient the drug is practically nonirritating and is not distasteful. Twenty minims a day, granting that one-third of this amount is excreted by the kidney, would be 7 minims diluted by the urine passed in 24 hours, that is 50 ounces in the normal condition. Seven minims, diluted by 50 ounces, makes a solution of 1:3500. Therefore there should be a solution 1:3500 constantly in the bladder and kidneys to combat the growth of any micro-organisms that may be there. It is unfortunate that we cannot show that such strength of formalin is sufficient to render antiseptic the urinary tract thoroughly,—show it by bacteriological evidence. But the truth of the matter is that a solution of 1:1000 formalin, left in contact with a mixture of colon and typhoid bacilli for one hour and these then planted on gelatine, was not sufficient to kill them, moreover that even urine, with theoretically this amount of formalin in it, actually permitted a culture of these two organisms to develop."

Urotropin, he considers a union of formalin and ammonia, and he has produced it synthetically—or, at least, a substance resembling urotropin and possessing its properties.

Antitoxin and Carbolic Acid in Tetanus. —Ernest LaPlace, *Phila. Med. Jour.*, reports a case of tetanus of which the following is an abstract:

Nov. 4th.—Ran nail into foot.

14th.—Felt headache.

17th.—Entered hospital; trismus, dysphagia, pain in back, temperature 90°, pulse 76, respirations 20.

18th.—Left sided trephining and injection of 20 cc. serum. Temperature rose from 98° to 100°.

20th.—40 cc. serum injected into subdural space without anesthesia, no pain.

21st.—Opisthotonus, becoming milder on successive days.

24th.—Carbolic acid injections begun, 5 drops diluted 3 times with water, every three hours.

26th.—Jaws relaxed ¼ inch. From this time, improvement was quite rapid, 48 doses of carbolic acid being given in all. The patient was entirely well on the 21st day of the disease.

La Place states that he had failed in his last three cases of tetanus, although using as much as 360 cc. of antitoxin by subcutaneous injection. He guards against giving the impression that the antitoxin failed in the present instance and that the cure was due to carbolic acid. Personally, we fail to see that this case is a material support of the efficacy of antitoxin.

Book Notices.

International Medical Annual and Practitioner's Index. E. B. Treat & Co., New York and Chicago, 1900. 748 pages including index, 26 plates and 53 wood cuts; $3.50.

This is the eighteenth issue of the annual, which is largely the work of English writers. The work is arranged alphabetically and consists rather of a series of original articles by the editors than of citations from magazine articles, as in the case of other annuals. Each method has its own advantages and disadvantages. For the practitioner whose desire is to obtain information as rapidly and concisely as possible, the present method is to be preferred but, while credit is given to many of the principal investigators and authorities, a critical reciew of any topic would require fuller references to current literature than can be found in the International. We are glad to note that the price is printed on the title page and wish that all publishers would make this a rule. The first 62 pages are devoted to New Remedies, and we are glad to note that only a few of the more useful and better understood ones have been selected.

The Abdominal Brain. By Byron Robinson, B.S., M.D., of Chicago. 261 pages, 16 charts. The Clinic Publishing Co., Chicago, 1899.

Beginning with a historic sketch of the physiology of the sympathetic, the author proceeds to discuss the reflex neuralgias, anesthesias, paralyses, neuroses, pigmentations, etc., that may be due to its disturbance. It will surprise many to find that the spinal scleroses, epilepsy, etc., are classified as sympathetic diseases, and, doubtless, the profession will not accept all of the author's views as to the far-reaching effects of sympathetic lesion. The chapter dealing with the independence of the sympathetic nerve—which is not generally accepted at present—consists of 38 brief statements of experimental demonstrations. This is one of the cases in which one may accept the premises and yet disagree with the conclusion. But it must be understood that the great value of the work is that it discusses so many common and puzzling conditions from a new standpoint and that, while we may not agree in all respects with the author, we shall find ourselves instructed and broadened by studying his views. Sexual lesions and neuroses, naturally, occupy much space. In our opinion the book may be compared to Bouchard's work on Auto-intoxication, which appeared so modestly, that it attracted little attention at first sight but which proved valuable food for careful reading and reflection, and which gradually came to be regarded as a masterpiece of pioneer investigation and—what is often lacking in these pragmatic days of objective study—careful digestion and theorizing. We regret that the publishers have not done their part as well as the text deserves.

Imperative Surgery. By Dr. Howard Lilienthal, of New York. Green cloth, nearly square, 412 pages, 153 illustrations, mostly half-tones from photographs. MacMillan Co., London and New York. 1900.

The press-work and illustrations are the clearest that we have seen for some time. The text is well written and is arranged according to regions. The copious illustration renders the book especially satisfactory for ready reference, and the subjects are treated in a broad spirit. Particular attention is paid to improvising operating rooms and instruments. Thus, retractors made of forks, spoons, etc., are pictured. Directions are given for extemporizing an electric probe from wire wound with adhesive plaster, the electrodes being copper and silver coins and the battery being the surgeon's mouth. Wound wire curets are also described. The book is the product of an ingenious and logical man, as well as expert surgeon, and should be read by every operator and by every physician who may have to pave the way

for an operator, summoned by telegraph to places where hospital conveniences are not at hand. The details of antisepsis, anesthesia and similar points are concisely stated, yet we find no evidence of faddism. It is seldom that we are called upon to review a book that fills so thoroughly and satisfactorily a genuine need of the profession.

We must protest, however, against the author's claim that the only possible way of recovery after inflammation of the appendix, not operated upon, is by spontaneous sloughing. We have personally diagnosed and treated medically—not by morphine—some ten cases of fairly acute, non-septic scolecitis, which have remained well for from several months to two or three years.

The Anatomy of the Brain. By Richard H. Whitehead, University of North Carolina. 95 pages, 41 engravings. F. A. Davis & Co., Philadelphia, New York and Chicago. 1900.

The Latin nomenclature recommended by the German Anatomical Society is used, with the older English terms in parenthesis. Brain anatomy is the foundation of much of the practice of the neurologist, the surgeon and the general practitioner, and this little book presents the necessary information clearly and briefly, yet sufficiently in detail for all purposes save of those who are making a critical study of the central nervous organs.

Transactions of the Mississippi Valley Medical Association, for the 25th annual session, 1899. Vol. 1, 1899. 474 pages, including index.

Much of the credit of the work, considered as a book, is due to the secretary, Dr. Henry E. Tuley, of Louisville. A large number of papers, covering a variety of subjects, is included.

While we can have nothing but words of praise for a work so well executed as this volume of transactions, we wish to call attention to a possible, perhaps a threatened evil of the custom of publishing transactions of societies, hospital staffs, etc., either in definite periodicals or in bound volumes. Unless the circumstances are exceptional, such publications have no point in harmony except that of membership in one organization and, as a rule, all programs include a number of papers which do not deserve perpetuation. If every paper is excellent, much loss is entailed by publishing in an arbitrary collection. The time and money of the reader is conserved by publishing in periodicals and text books which are more or less specialized, so that discussions of the same kind shall be grouped together.

There is another serious danger of the overdevelopment of the "Transactions" idea. At one of the recent meetings of the American Academy of Medicine, there was discussed the very live issue of how to improve the quality of current medical literature; how to eliminate the great mass of writing by ignorant or incompetent men and by those who, while competent enough, have taken advantage of the low rhetoric and scientific standards of medical literature to foist on the reader articles consisting of more or less openly plagiarized matter. It was concluded that the only method available was for each writer to insist on payment for his articles, either in cash or reprints. An insistence on this method would work to the benefit of the profession in two ways: it would drive out of publicity—or at least out of publicity in journals of high standing—the incompetent writer, while, at the same time, it would drive out of existence—or would allow the existence merely as mutual obligation societies—the lower grade of medical periodicals. In addition, this plan would aid the medical writer by establishing a standard of excellence for his writing which he would have to maintain.

We regret that business conditions are such that no medical journal can pay for its contributions what they ought to be worth. But, at space rates, or by compensation by reprints, the actual expenditure of time by the writer can be requited, while the check on the present mushroom growth of medical "literature" will be sufficient.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

*SUGAR, AS SUCH, IN THE DIETARY OF DYSPEPTICS.**

By WILLIAM GERRY MORGAN, M.D.,

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[CONCLUDED.]

NUMBER 2, OF SERIES II.

T. B., age 49 years, mechanic; fairly well nourished and very muscular; he has had but a single illness in his lifetime, and that was erysipelas 15 years ago, from which he fully recovered. Weight 204 pounds.

Subjective sensations: Appetite fairly good, but soon after beginning to eat feels "filled up." Belches a great deal, the gas having no odor. He never has a bad breath. Tongue is always clean, although at times it is somewhat dry. No nausea or vomiting. Has marked pyrosis in the epigastrium, coming on two or three hours after meals. Spits up sour liquid after eating, which is accompanied by a burning sensation along the oesophagus. Has a great deal of flatulency.

Urine: amount in 24 hours 1620 c.c.; color amber; sp. gr. 1020; no sugar or albumen present; urea in 24 hours 30.8 grms.

Gastric function: one hour after Ewald test breakfast: reaction acid; F. HCl present; total acidity 65; F. HCl 52.5; erythrodextrin present; maltose absent; rennet and pepsin present; peptone and propeptone present; mucus present; lactic acid absent.

Bowels constipated; feces normal in appearance, but dry and hard; amount in 24 hours 162 grms; microscopy negative.

Experiment 1. I gave him a powder to be taken after each meal, containing 20 grms of powdered cane sugar, flavored with eleosaccharae menth. piperit., and requested him to eat the same foods which he had been eating the week previous to the first examination. He replied that he could easily do that, as at his boarding house he could foretell weeks ahead just what they would have to eat upon any particular day.

At the end of 7 days he presented himself at my office one hour after eating the Ewald test breakfast. The gastric filtrate showed: acid reaction; F. HCl present; total acidity 40; F. HCl 20; achroodextrin present; maltose present; peptone absent; propeptone present; rennet and pepsin present; mucus present; lactic acid absent.

Urine: amount in 24 hours 2200 c.c.; color amber; sp. gr. 1023; reaction acid; albumen and sugar absent; amount of urea in 24 hours 39.6 grms.

Bowels have moved without artificial aid. Feces are well formed and normal in appearance, except that they are rather light in color. Consistency softer. The microscope shows some shreds of undigested animal and vegetable matter. Amount in 24 hours 171 grms.

Subjective sensations: He feels a good deal better; does not belch as much; has no pyrosis; does not spit up sour food; is more thirsty and has drunk more water, and while he thinks he does not pass as much urine as when he is drinking beer, yet says he has passed more than during the first two or three days of the treat-

* Read before the American Gastro-Enterological Association, May 1, 1900.—Contributed exclusively to the AMERICAN THERAPIST.

ment. Appetite fairly good; still feels filled up after eating a little food. As this last examination was made a few days ago, there has been no further opportunity to test this case, which I am confident would harmonize with those already given.

The first case in series 2 was one of extreme hyperacidity. The total acidity, comparing with that of the healthy man tested in the first series as 115 to 50, and the F. HCl as 100 to 40. In the first experiment 12 grms. of cane sugar given at each meal for 7 days reduced the total acidity from 115 to 100, and F. HCl from 100 to 90. In the second experiment more than double the amount of sugar given in the first experiment was taken for 10 days, the result being a reduction of the total acidity to 65, and the F. HCl to 60. A still further increase of sugar diet for the following ten days caused a reduction of the total acidity to 60, and the F. HCl to 40.

These three experiments taken as a whole show that by a large amount of sugar in the diet for 17 days the total acidity was reduced from 115 to 60 and the F. HCl from 100 to 40. The effect of the sugar was further noted in experiment 5, in which there was a return to the usual diet for 7 days. At the end of this period the total acicity had risen to 100 and the F. HCl to 90.

Experiments 4 and 5 were similar in respect to the large amount of sugar used in the diet, but in the first 30 grams of French brandy was given with each meal. The results obtained were strikingly dissimilar. In the experiment in which the brandy was given the acidity was not reduced below 105 and the F. HCl to 87.5. In the contrasting experiment in which the brandy was omitted, the total acidity fell to 80 and the F. HCl to 60. These two experiments seem to warrant the conclusion that alcohol either increases the absorption of sugar, and in this way relieves the stomach of some of its burden and the consequent depression of the secretory function, or it stimulates the glands to increased action and thereby neutralizes to some extent the effect of the sugar.

The results obtained in the second case of hyperacidity were quite similar to those obtained in the first, the diet containing a large amount of sugar reduced the total acidity from 65 to 40 in 7 days, and the F. HCl from 52.5 to 20. (See Table. II.)

Series III. I then chose for my third series of observations a man having a well defined case of "gastritis chronica mucosa."

J. G., age 57 years, fairly well nourished and muscular; weight 169 pounds.

Subjective sensations: Appetite is only fairly good, but he is able to eat a sufficient amount of food. He feels distended when half through the meal, and is obliged to force the remainder of his food for that time. He belches a good deal and has some flatulency. He complains of more or less dryness of the mouth, and of thirst, especially during the night. The taste in his mouth is pasty, and the tongue is coated.

The amount of urine in 24 hours is 2721 c.c.; color pale; reaction acid; sp. gr. 1013; amount of urea in 24 hours 23.2 grms.; albumen ¼ of 1 per cent.; sugar 4 per cent.; microscopic examination showed pus cells in abundance, which entirely obscured the field. The condition of the urine in this case is quite unusual of considerable interest, from low sp. gr., large amount of sugar and small amount of urea.

Examination of gastric contents one hour after Ewald test breakfast: reaction acid; F. HCl absent; total acidity 20; rennet and pepsin absent; rennetzymogen and pepsinogen present; achroodextrin present; mucus present in large amounts; peptone absent; propeptone present in small amounts; stomach in fasting condition is empty.

Bowels move morning and evening, but the feces are normal in appearance; amount in 24 hours 142 grms.; micro-

TABLE II.

Showing the results of the analysis of the gastric filtrate, and examination of the feces in cases No. I and II in the second series of experiments.

	Amount of Sugar.	Total Acidity.	Free HCl.	Enzymes.	Peptone	Propeptone	Starch Digestion.	Lactic Acid.	Mucus.	Feces.
Trial tests.	None. "	115 117.5	100 112.5	Present "	Present "	Absent A trace	Dextrin present.	Absent "	Absent "	Undigested animal matter.
Experiment I.	12 grms. cane sugar.	100	90	—	—	—	—	—	—	—
Experiment II.	24 grms. sugar and 90 grms. maple syrup	65	60	Present	Present in small amt's.	Present	Erythrodextrin, achroodextrin, maltose present.	Absent	Absent	Undigested animal matter.
Experiment III.	As in Exp. II.	60	40	Present	Absent	Present in large amt's.	Erythrodextrin present.	Absent	Absent	Much undigested animal matter.
Experiment IV.	None.	100	90	Present	Present	Absent	Erythrodextrin much.	Absent	Absent	—
Experiment V.	As in Exp. II and in addition 30 grms. brandy.	105	87.5	Present	A trace	Very much	Dextrin and erythrodextrin present.	Absent	Absent	—
Experiment ment VI.	Same as in Exp. II.	80	60	Present	Absent	Present	Dextrin a trace, erythrodextrin very much	Absent	Absent	Much undigested animal matter.
CASE 2. Trial test.	None.	65	52.5	Present	Present	Present	Erythrodextrin present, achroodextrin absent.	Absent	Present	Normal.
Experiment I.	20 grms. cane sugar.	40	20	Present	Absent	Present	Achroodextrin present.	Absent	Present	Undigested animal and vegetable matter.

scopic examination shows a good deal of undigested animal matter.

Experiment 1. The patient was now requested to eat 60 grams of New Orleans molasses with each meal, and was given a powder containing 16 grams of powdered cane sugar, with a small portion of aromatic powder to disguise it, to be taken immediately after each meal. He was told to return in 7 days with an Ewald test breakfast. Nothing more was seen or heard of him until about the same date of the following month, when he presented himself one hour after having eaten the test breakfast. He states that he was so much better that he thought it not necessary to come back at the specified time. His appetite has been much improved. He belches much less, and is not troubled with flatulency. He has not been as thirsty for the past week. Taste in the mouth is not so disagreeable. He

thinks he is passing less urine. Says he is not so tired at night, and feels stronger, and desires to continue the "spice powders." Weight is 170 pounds.

Amount of urine in 24 hours 2620 c.c.; reaction acid; color pale; sp. gr. 1010; amount of urea in 24 hours 33 grms. Albumen $^1/_{10}$ of 1 per cent.; sugar 1 per cent.; microscope shows large amount of pus.

Examination of gastric contents one hour after Ewald test breakfast: reaction acid; F. HCl present; total acidity 35; rennet and pepsin present; peptone and propeptone present; lactic acid absent; mucus present.

Bowels moved once daily for the past three weeks. Amount in 24 hours 165 grams.

Experiment 2. The sugar was now stopped altogether for 7 days, at which time another series of observations were made.

Weight has remained at 170 pounds.

Subjective sensations: feels fairly well; appetite not quite so good; not as thirsty as before; has belched more for the past week than for the proceeding ones; is suffering from bronchitis at present.

Amount of urine in 24 hours 2580 c.c.; sp. gr. 1012; urea in 24 hours 15.18 grams; albumen $^1/_{10}$ of one per cent.; *sugar absent;* microscopic examinstion shows a lessening in the number of pus cells.

Examination of the gastric contents after the accepted methods: reaction acid; F. HCl absent; total acidity 12.5; rennetzymogen and pepsinogen present. Achroodextrin present; peptone absent; propeptone present in small amounts; lactic acid absent; mucus present.

Bowels have been rather loose with considerable flatulency. Some days there have been several movements, but the total amount in 24 hours has been somewhat less, 141.5 grams.

This normal diet without an excess of sugar was continued for another week, when another examination of the bodily secretions was made. The only differences noted were in the amount of urine in 24 hours which increased to 2880 c.c., and in the urea which increased to 28.8 grams, and finally, in the amount of sugar which jumped up to 4 per cent. I cannot account for the sudden increase in the amounts of urea and sugar at this time. This experiment was repeated one week later with very nearly the same results except that the urine increased to 3140 c.c. in 24 hours, and the urea dropped to 15 grams in 24 hours.

Experiment 3. Two weeks later he resumed the sugar with normal diet for one week, with the following results:

Weight 169 pounds.

Subjective sensations: Says he feels better again. His appetite has improved. Does not spit up his food as he did for a few days previous to taking the "spice powder." Has been more thirsty, and drunk much more water and passed more urine. Has belched very little, and had less flatulency. Is less easily fatigued.

Amount of urine in 24 hours increased to 5060 c.c.; amount of urea in 24 hours 55.64 grams. Albumen 2 per cent.; sugar 3 per cent.

Examination of gastric contents: reaction acid; F. HCl present; total acidity 30; maltose present; mucus absent; lactic acid absent; peptone a trace; propeptone present in large amounts: pepsin and rennet present.

Bowels move twice daily, the amount in the morning being 120 grams, and in the evening 80 grams; very little undigested animal matter.

Experiment 4. The patient was now put upon a strict diabetic diet, and at the end of 7 days I again made the final series of examinations in his case with the following results:

He says he has "belched a good bit." Has not been as thirsty, nor drunk as much water. Appetite is not as keen. Weight 166 pounds.

Examination of gastric contents: F. HCl absent; total acidity 15; erythrodextrin present in small amounts; achroodex-

TABLE III.

Showing the results of the analysis of the gastric filtrate, and the examination of the feces in the third series of experiments.

	Amount of Sugar.	Total Acidity.	Free HCl.	Enzymes.	Peptone.	Propeptone	Starch Digestion.	Lactic Acid.	Mucus.	Feces.
Trial test.	None.	20	Absent	Absent, Rennet-zyomgen, Pepsinogen present.	Absent	Present in small amt's.	Achroodextrin present.	Absent	Very much	Much undigested animal matter.
Experiment I.	60grms.N.O. molasses, 16 grms. sugar.	35	Present	Present	Present	Present	Achroodextrin present.	Absent	Present	—
Experiment II.	None.	12.5	Absent	Rennet-zymogen, Pepsinogen present.	Absent	Present	Achroodextrin present.	Absent	Present	—
Experiment III.	Same as in Exp. I.	30	Present	Present	A trace	Very much	Achroodexirin and maltose present.	Absent	Absent	Very little undigested animal matter.
Experiment IV.	Diabetic diet.	15	Absent	Rennet-zymogen, Pepsinogen present.	Absent	Present	Achroodexrin and maltose present.	Absent	Present	—

trin present; maltose present in larger amounts; peptone absent; propeptone present; rennet and pepsin absent; lactic acid absent; mucus present.

Urine: amount in 24 hours 4080 c.c.; color pale yellow; sp. gr. 1016; reaction acid; albumen absent; sugar 1.5 per cent. Urea in 24 hours 18.36 grams.

Bowels decidedly constipated, requiring an enema to move them.

The third series of experiments made upon a case of "gastritis chronica mucosa" gave unexpected results.

In the four experiments, a diet containing large amounts of sugar was alternated for a week with either the usual diet or one strictly diabetic. Contrary to the results obtained in the preceding cases, in which the acids were lessened by the sugar diet, they were now decidedly increased, and immediately decreased to half the amount when the usual diet was resumed. Lactic acid was not present. (See Table III.)

Series IV. For my fourth series of experiments I chose a long-standing case of achylia gastrica, which has been under my observation for three years.

G. E., age 47 years, U. S. Government clerk, is not confined to desk work, however. Spare of flesh, but not emaciated. Muscular system well developed. He is not anemic. Has had several severe illnesses during early manhood. Weight 130 pounds.

Subjective sensations: Appetite fairly good. No discomfort when he follows the advice given him some months past. He is able to do a good day's work without undue fatigue. Has avoided all sweet foods during the past two years. Is rarely ever thirsty, and never drinks large quantities of liquids.

Urine: amount in 24 hours 1590 c.c.; color pale; sp.gr. 1018; reddish sediment; reaction acid; sugar and albumen absent; amount of urea in 24 hours 13.9 grams.

Gastric contents one hour after Ewald test breakfast: acid reaction; F. HCl absent; total acidity 7.5; rennet and pepsin absent; peptone and propeptone absent; achroodextrin and maltose present; lactic acid and mucus absent.

Bowels irregular, with a tendency to looseness. Feces not examined.

Experiment 1. He was now given 18 grams of cut sugar in addition to his regular diet. On the morning of the 7th day thereafter, one hour after the test breakfast the following results were noted: Is not feeling well. Has been very thirsty, but has refrained from drinking an excess of liquid. He does not belch. His appetite is poor. He has felt a fullness in the epigastrium after meals; otherwise, so far as he can judge, the bodily conditions remain the same as before the experiment. Weight 130 pounds.

Urine: amount in 24 hours 1675 c.c.; color yellow, cloudy; sp. gr. 1007; reaction acid; sugar and albumen absent; amount of urea in 24 hours 14.75 grams.

Gastric function: F. HCl absent; total acidity 5; erythrodextrin present; archroodextrin present; maltose present; rennet absent; pepsin absent; peptone and propeptone absent; lactic acid a trace; mucus absent.

Bowels moved once daily until yesterday, when they did not move at all; this morning he had a movement which weighed 121 grams, being the total amount for 48 hours. A microscopic examination showed undigested animal and vegetable matter.

It may be here noted that in every experiment of these series where a sugar diet was given a microscopical examination of the feces has shown incompleteness of the digestion of proteids.

In the last case, one of achylia gastrica, the gastric functions were already very much depressed, and the effect of a sugar diet was not as noticeable. The total acidity was, however, slightly reduced, from 7.5 to 5 and the F. HCl remained absent as at first.

TABLE IV.

Showing the results of the analysis of gastric filtrate and the examination of the feces in the fourth series of experiments.

	Amount of Sugar.	Total Acidity.	Free HCl.	Enzymes.	Peptone	Propeptone	Starch Digestion.	Lactic Acid.	Mucus.	Feces.
Trial test.	None.	7.5	Absent	Absent	Absent	Absent	Achroodextrin, maltose present.	Absent	Absent	—
Experiment I.	18 grms. sugar.	5	Absent	Absent	Absent	Absent	Erythrodextrin, achroodextrin, maltose present.	A trace	Absent	Undigested animal matter.

We will now consider the other effects of sugar upon the digestion of proteids, as seen in the tests upon the gastric filtrate for peptones and enzymes. You will observe in the experiments upon the healthy man, that, although large amounts of peptone were present in the trial test, they were absent in every experiment where sugar was added in large amounts to the diet, even where added to the test meal only. Propeptones were usually present in small amounts, as well as the enzymes, rennet and pepsin. It is interesting to observe the similarity of the tests made upon the despeptic and those upon the healthy man. In the cases of hyperacidity noted in Series II peptone was present in the trial test, but was absent or

found as a trace in the test made after a sugar diet. Propeptone was often found in large amounts and rennet and pepsin were always present. The results noted in the case of gastritis of Series III were as remarkable as the test for acidity and seem worthy of being given in detail. The trial test showed an absence of peptone and also of enzymes, but propeptone was present in small amounts. After taking a sugar diet for one month, peptone, propeptone, rennet and pepsin were all present in the filtrate from the test breakfast. Then after returning to the usual diet for several days the peptone and propeptone disappeared, and the conditions were the same as when the experiment was begun, except that rennet and pepsin were present. The diet of sugar was then again resumed for 7 days, when the test showed a trace of peptone, and propeptone was present in large amounts, indicating a still greater improvement under the sugar diet. Finally, a diabetic diet for seven days caused exactly the same condition as when the experiment was begun.

The case of achylia gastrica tested in Series IV changed as little in regard to the peptic enzymes as to the acids under the sugar diet, the conditions remaining absolutely the same.

Subjective sensations: It would appear from a study of the subjective symptoms detailed by these several patients when placed upon a sugar diet, that sugar in sufficiently large amounts acts as an antifermentative in the stomach, as shown by the lessening of the belching of gas.

This seems all the more probable when we consider that in the dyspeptic cases studied there was less gas-production, notwithstanding the depression of secretion of HCl which is the natural anti-fermentative and antiseptic of the gastric juice. A probable result of the depression of the secretion of HCl by the sugar diet was the relief from pyrosis which those patients suffering from hyperchlohydria experienced. The effect of sugar upon the appetite of these patients was quite irregular, so that no definite conclusions may be drawn; but there was a marked action upon the bowels which was constant in each case and similar in all. This was shown by the increase in weight and greater liquidity of the feces, and also by an increased activity of the bowels. The effect upon the urine was as follows: there was a general increase in the amount passed in 24 hours, but of far greater interests is the fact that the urea was greatly increased in every instance. This would lead to the conclusion that individuals with a tendency to uric acid diathesis should not eat sweet foods—a fact which has been already established by many years of clinical experience.

Conclusions: From these experiments one may be led to believe that sugar in considerable amounts in the diet of both healthy and sick men depresses the secretory function of the stomach, thereby lessening the quantity of acids as well as the enzymes of the gastric juice.

In hyperchlorhydria a diet containing large amounts of sugar lessens the secretions of acid in about the same proportion as in the healthy stomach.

From the results obtained from all of the experiments, except those made in the case of achylia gastrica and the one of gastritis chronica mucosa, it seems probable that by the addition or withdrawal of sugar from a patient, the total acidity and the F. HCl may be increased or decreased at will. In the former case the negative effect upon the glands is probably due to atrophy. In the latter the indications point to the cleansing and even germicidal effect of sugar when added to the diet in large amounts. Upon this point I cite an extract from a book which has just appeared from the German press, entitled "The Significance of Sugar as a Human Food," by Dr. Theodore Jainsch, which is here pertinent. This writer says: "Sugar acts as a solvent for the mucus. There exists a prejudice that sugar promotes the formation of mucus; but it does this only

with very abundant and long continued use, which brings the stomach into an enfeebled condition."

A lessening of the activity of the enzymes of the gastric juice under the sugar diet is apparent in all these cases, except the one of gastritis chronica mucosa noted. A further conclusion to be noted in regard to the function of proteolysis as observed in these cases, is that propeptone is formed in greater amounts than peptone under conditions which cause a depression of the gastric function.

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DISCUSSION.

Dr. Hemmeter: Pawlow, Arbeit der Verdauungsdrüsen, demonstrates that the digestive glands respond only to specific stimuli, those foods which require certain digestants, stimulating corresponding glands while the secretion of other glands tends to be depressed. Thus, fats depress the secretion of HCl. Dr. Hemmeter detailed an experiment in which he separated a litter of six fox terriers shortly after birth, rearing three on bread and vegetables while the others received an abundant meat diet. He found that the HCl secretion of the latter was about double that of the former.

Dr. Benedict quoted statistics kindly furnished by H. W. Wiley, of the U. S. Dept. of Agriculture, showing that in the United States the annual per capita consumption of sugar, aside from that taken in fruit, is 66 pounds, while for Great Britain it is 86 pounds. In other words, about a fifth of the total carbohydrate food is taken in the form of sugar. He had long been convinced of the harmlessness of sugar, and in cases so bad that complete rest of the stomach was needed, with rectal alimentation, he resumed gastric alimentation with a diet of sandwiches containing chopped pancreas and home-made chocolate candy. Persons who have a hearty appetite for undigested starch, as in potatoes, rarely crave sweets, and vice versa. Sugar was, practically, a partially digested food, and it might well be that those persons who have a marked appetite for sweets have shorter intestinal tracts or less active pancreatic digestion than those who prefer starches. There are three double hexoses, lactose, which is the sole normal carbohydrate food of the infant, maltose, which is the normal result of ptyalin and amylopsin digestion of starch, on the way to the formation of glucose, and cane sugar. He considered the irritating effects of sugar on mucous membrane to be due entirely to osmotic phenomena and that proper dilution would prevent harm unless unreasonably large quantities of sugar were taken.

Dr. Einhorn mentioned certain foreign experimenters who had reached the same conclusions as Dr. Morgan.

WHY IS SUGAR INJURIOUS?—For three reasons, according to Patchen in the *Dietetic and Hygienic Gazette*, December, 1899.

First, because it is used very often to render palatable articles which by reason of age and decay become unfit for proper nourishment.

Second, because it interferes with the digestion and assimilation of other kinds of food.

Third, because of its seductive palatability it causes food to be eaten after the physiological limit of supply and demand has been reached.

Among the prominent derangements directly traceable to improper food and its residuals he mentions obesity, billious disorders, jaundice, gall stones, boils, many forms of skin disease, colds, catarrh, spasmodic croup, hives, cholera morbus, lumbago, rheumatism, gout, tonsilitis dyspepsia, congestion of the liver, colic, diarrhea, apoplexy, Bright's disease, and, in the writer's opinion, pulmonary consumption, hay fever and asthma should be added.—*Charlotte Medical Journal.*

We insert this selection *a propos* of Dr. Morgan's paper, just preceding; but we wish to guard against the idea that sugar properly taken, and in proper amount, is injurious.

*FERRATIN: ITS ABSORPTION IN THE DIGESTIVE TRACT.**

By Prof. Pio Marfori,
Of the Institute of Pharmacology, University of Ferrara.

Ferratin differs physiologically from other iron compounds chiefly in that it is readily absorbable in the intestinal canal. It is, moreover, identical with the iron compound as found in the animal organism under physiological conditions, and as I have isolated it from the liver and other organs.

We consume small quantities of iron in organic combination continually with our food; this iron remains in the organs as a reserve product for the formation of the blood. The condition of the mucous membrane of the intestine is an important factor in relation to the amount of ferratin which may be absorbed. To promote absorption it is necessary to prevent the decomposition of the preparation in the gastro-intestinal canal; the sulphuretted hydrogen which may be present in large amount in the intestine possesses the power to attack and slowly decompose ferratin. Therefore, tests to establish the absorbability of ferratin may show varying quantitative results, according to the greater or less degree of the putrefactive process in the intestine. Thus, in my first tests the absorption of ferratin amounted to 13.7 to 41.68 per cent. The actual amount of iron absorbed varied from 59.7 to 90 mg. This exceptionally large absorption is explained by the fact that the dogs received saline purgatives repeatedly before taking the ferratin, which worked a good disinfection of the intestine. On the other hand, some credit may be due to special anatomical conditions of the intestinal mucous membranes following the effect of the purgatives.

In animals whose digestive tract is in normal condition the absorption of ferratin, according to Schmiedeberg, amounts to very little.

This author experimented on dogs which were kept on a regular diet, and avoided all or nearly all purgative effects; under these conditions the iron absorbed amounted to 5 to 20 mg. Under such tests we have the advantage of a normal condition of the animal; but on the other hand, we enconnter a serious difficulty in discriminating between the iron from ferratin and that previously contained in the intestine or introduced with the food during the experiment. Under such conditions, therefore, it is impossible to positively and accurately determine the amount of iron retained in the intestine or absorbed from ferratin.

For this reason, I deemed it advisable to institute further trials to determine the absorption of ferratin; the animals were placed on a constant milk diet, and all purgative influence on the intestine avoided as much as possible. I first gave the dogs a saline purgative, necessary to expel all remnants of food and at least most of the iron in the intestine; then the animals were placed on an exclusively milk diet, and ferratin was first administered several days later. As, furthermore, the greatest amount of iron from food is found in the lower portion of the large intestine, I gave the dogs—before commencing with ferratin—several enemas of magnesium sulphate. Through these measures the intestines remained intact and nearly all iron in the same was eliminated.

The method of trial was the same as described in my first report on ferratin.* The product used was the soluble ferratin, containing 7 per cent. of iron.

Experiment 1.—A dog weighing 3100 g. (about 7 lbs.). April 26, a purgative of about 20 g. Natr. Sulfur. in 100 g. water. For nourishment up to May 8, ½ liter (1 pint) milk daily; during the first few days enemata of Sal Epsom. From May 8 to 10 the dog received ferratin in divided doses; killed May 11. The result of the analysis showed:

Iron administered.....	140 mgr.	
Iron found in contents of stomach and intestine,	104	"
Iron absorbed.....	36	" or 25%.

* Original Translation from *Archiv. Ital. de Biolog.*, exclusively for the American Therapist; published by request.

*Archiv f. exper. Path. u. Pharmak., xxix, 1891.

Experiment 2.—A dog weighing 5200 g. (about 11½ lbs.). April 30, a purge of Natr. Sulfur.; regular milk diet; several enemata of epsom salts. May 8 and 9 administered ferratin in varying doses, dissolved in milk; and on May 10 killed the animal. Result of analysis:

Iron administered.....	91 mgr.	
Iron found in contents of stomach and intestine,	81	"
Iron absorbed.....	10	" or 10%.

Experiment 3.—A dog weighing 4200 g. (about 9½ lbs.). Eight days after purging, followed by several enemata, gave four doses of ferratin within two days; 48 hours after last dose the dog wes killed. Analysis showed:

Iron administered.....	135 mgr.	
Iron found in contents of stomach and intestine,	94	"
Iron absorbed.....	41	" or 30%.

These experiments prove that even in animals in which the condition of the intestine may be assumed to be entirely normal, ferratin is absorbed in considerable amount, although the proportions vary widely.

In another series of tests I have shown that ferratin injected into the blood in the proportion of 10 to 20 mg. iron to each kilo of body weight, will cause toxic symptoms; and in larger doses (25 to 50 mgm. of iron to each kilo of body weight) it may even cause death. I have repeated and confirmed these tests, using the soluble ferratin.

A dog weighing 12 kilo (about 26½ lbs.). Ferratin, equivalent to 10 mgm. iron per kilo of body weight, injected into the saphenous vein, which caused no toxic symptoms. But on injecting the equivalent of 45 mgm. iron per kilo of body weight later on, severe toxic symptoms set in, ending in death 14 hours later.

The considerable absorption of ferratin in the gastro-intestinal canal might prompt the thought, that continuous administration of the product would eventually cause an accumulation of iron in the organism. Tests in this direction on animals, and the sufficiently extended observations on human beings so far, prove that no such danger need be feared. Test dogs, as also human patients, who took regular doses of ferratin for a month and even longer, manifested stimulated appetite, general improvement, increased body weight and an improved blood composition. An exception to this rule might occur, however, if excessive doses, compared to body weight, were administered, and the condition of the intestine permitted a too liberal absorption continuously.

A small dog of 2270 g. (about 5 lbs.) kept on a regular milk diet, ½ litre, received 1 gramme ferratin per day dissolved in the milk. To study the blood formation under the influence of ferratin, blood was taken from the dog at certain intervals. It was notable that for 25 days the dog was well and frisky, with good appetite; then his appetite failed gradually, vomiting and diarrhea occurred, the animal became emaciated and apathetic, and finally died after eight days. Examination of the blood with Fleischl's haemometer showed a considerable diminution of the hemoglobin after each blood letting. But under the influence of ferratin the loss was not only made up to the normal, but a much higher percentage could be attained. Before commencing the ferratin administration the hemoglobin of the blood was constant at 60 under repeated blood letting; after each loss of blood it fell to 30 or 40, rising again within 4 or 5 days to 70 or 75. Even on the day the dog died the hemoglobin was 75. On dissection no changes which might explain death, could be noted in any of the organs. The mucous membrane of the stomach and of the intestine showed ecchymoses, also present in the lungs. The liver, spleen and kidneys yielded an intense ferratin reaction with sulfide ammonium.

In this case death was probably due to the excessive amount of ferratin absorbed. From a therapeutic point of view this is of no importance. If a human patient had taken equivalent doses of ferratin, based on body weight, as in the case of the last described dog, it would have amounted to

28.63 gm. per day, or approximately 1 kilo per month. Comparing this enormous and toxic amount to the therapeutic dose of 1 to 3 grammes per day, it is evident that no danger need be feared from continued use.

The results of my trials to establish the absorption of ferratin from the intestinal tract have meanwhile been confirmed chemico-analytically by Jacquet and Kundig.[1] Lately Dr. Fillipi[2] has completed a notable series of experiments with ferratin, in the laboratory of Ziegler, in which—based on micro-chemical tests—he arrived at the conclusion, that "the absorption of ferratin in the digestive tract is accomplished in a degree unequalled by any other iron preparation."

Langaard and Kobert[3] have stated that after such decomposition we are no longer dealing with an organic compound. I regret that I have no means of knowing on what basis Kobert arrived at such conclusion, as nowhere in his publications does he furnish an explanation.

At any rate, the two following tests prove that ferratin, under physiological conditions, is not decomposed in the stomach:

I.—A sound and robust dog, weighing 5500 g. (about 12 lbs.), receives 1.5 g. ferratin in ½ liter of milk. Two hours later the dog is killed and the stomach contents is immediately examined. This represents a yellowish white, acid-reacting pulp, which is thoroughly mixed with distilled water and then filtered. In the filtrate no trace of iron can be found by any of a variety of re-agents, providing that no soluble iron salt is present, which should be the case if ferratin in even the smallest proportion were decomposed by the stomach juices. Thereupon the pulp is made alkaline with a solution of sodium carbonate, in order to dissolve the contained ferratin cold. After filtering the mixture, ammonium sulfide is added, and immediately the reaction peculiar to ferratin ensues. Therefore the ferratin remained unchanged for two hours in the stomach juices of a digesting dog.*

II.—A healthy mature dog, weighing 7 kg. (about 15½ lbs.), after application of a loop at the pylorus, received 1 g. ferratin in aquous solution by means of the esophageal sound. The animal retained the drug well, and did not vomit. Twelve hours later the dog was killed. The stomach contents consisted of a reddish acid-reacting fluid, in which were mingled small mucus flakes. A portion of same dissolved in water, plus the necessary qauantity of ammonia, gave the characteristic feratin reaction on the addition of ammoninm sulfide. On the other hand, not a trace was found of iron in "anorganic" combination. Ferratin will, therefore, remain undecomposed in the stomach contents of a dog for 12 hours.

In the report of Kobert, above referred to, he doubts that the natural iron obtained by Schmiedeberg and myself from the liver and other organs, pre-exists in normal organs. It appears to me that the error of this view is easily shown, as the presence of ferratin in the liver and other organs can be easily demonstrated by means of the ammonium sulfide test.

Moreover, the process of obtaining ferratin consists in triturating the fresh liver, adding distilled water, heating briefly to boiling point and filtering. The residue, precipitated with diluted tartaric acid and washed in water, constitutes ferratin (Schmiedeberg). How can it be possible, with so simple a process, to produce a new body or product having the properties of ferratin?

The presence in the normal organs, especially in the liver and spleen, of an iron compound having the properties of the artificial ferratin, cannot, therefore, be doubted.

As ferratin is borne well by the intestine, and is readily absorbed, and as it holds iron in a combination which is identical with the iron component of food, it best meets the therapeutic requirement for increasing the iron in the organism.

[1] *Corr.-Bl. f. Schweizer Aerzte*, June 1, 1894.

[2] Beiträge zur Path. Anat. Bd. XVI, p. 462.

[3] *Deutsche Med. Wochenschr.* 1894, Nos. 28–29.

*The reaction with ammonium sulfide characteristic of ferratin is, that on adding a drop of ammon. sulfide to a ferratin solution no change takes place for a certain period of time; the usual dark, and later, black, coloration due to the presence of iron becomes apparent only after a long interval, conditional on the concentration of the ammonium sulfide, the temperature and other factors.

*THE PROGNOSIS AND TREATMENT OF GASTRIC ULCER.**

By BOARDMAN REED, M.D., of Philadelphia.

Prognosis.—The mortality from gastric ulcer has greatly lessened as a result of recent improvements in the treatment. Brinton estimated it at fifty per cent., whereas it is now stated by several authors as not exceeding ten per cent. In any case, the prognosis will depend upon many things—the absence of serious complications, the youth and vigor of the patient, and, above all else, his ability and willingness to submit to a course of methodial treatment in bed. When the special ulcer rest cure is instituted and strictly carried out during an early stage of the disease, recovery nearly always follows within a few weeks, and is often permanent. When the affection has long existed, and the ulcer is deep, as shown by large hemorrhages, the outlook is less favorable. When it is complicated by acid gastric catarrh, the disease is likely to be very obstinate, and when stenosis of either orifice has resulted, a cure is impossible without surgery. A small proportion of cases heal spontaneously in the course of time—often many years—in consequence probably of a diminution in the secretion of the gastric glands, the HCl having, as a result of exhaustion or atrophy, given place to a deficiency of the same. But there are few, if any, diseases in which skilled treatment at the proper time can accomplish such brilliant results.

Treatment, Prophylactic.—In every case of marked hydrochloric acid excess, especially if there is pain at the height of digestion, you should consider that ulcer is threatened, if not already present, and insist upon a rational and persistent treatment until normal conditions have been restored, and even then urge strenuously that the patient so alter his diet and unhygienic mode of life that there shall not be a speedy return of the secretory derangement. For instance, it is quite useless to cure a patient of hyperchlorhydria, if, so soon as you pronounce the percentage of HCl in the stomach contents to be normal, he be permitted to eat irregularly, hastily and excessively a diet consisting mainly of meat and other stimulating animal foods, with acids, alcoholic liquors, the sharpest condiments and other things that are highly exciting and irritating to the gastric glands, especially if at the same time he exercise little and overtax his brain and nervous system in many ways. It ought to be possible to make such a patient understand that the same cause which produced his disease before will still more easily produce it again, if he continue to keep them in action.

Cure the hyperchlorhydria, then, by the methods which I have hitherto described, including full doses of alkalies and belladonna or atropin, not forgetting that, next to a bland diet, intragastric faradism applied by a first-class high-tension coil five minutes every other day will often succeed after medicines have failed to reduce the HCl secretion to the normal.

Moreover, since anemia and chlorosis predispose strongly to ulcer, you should endeavor always by exercise out-of-doors, cool or cold sponge baths and other hygienic measures to improve the quality of the blood. When in such cases the stomach is not too sensitive, you may often administer safely such mild ferric preparations as Blaud's pills, neutral solution of the albuminate of iron, etc., and when these do not suit, preparations of bone-marrow often meet the requirements well, increasing the number of red blood corpuscles without disturbing the stomach or increasing the hyperacidity.

Treatment, Curative.—A recent French writer, Lemoine, lays down two fundamental indications in the treatment of gastric ulcer: (1) To put the stomach at complete rest, and (2) to modify the gastric secretion, that is, reduce the hyperchlorhydria. To do these things effec-

* From *International Medical Magazine*, May, 1900.

tively is often sufficient, but Lemoine very properly adds these further special indications:

(1) Quiet the pain. (2) Allay vomiting. (3) Prevent dilatation of the stomach. (4) Preclude or arrest hematemesis. To which I may add: (5) Prevent perforation.

To put the stomach at rest physically and functionally, it will be necessary, first, to keep the patient in bed for a time —three weeks at least and four to six weeks are better—and for one week to feed exclusively per rectum, or longer in the worst cases. Fox, Forster and Williams first advised such a rest cure for ulcer of the stomach, but to Ziemssen and Leube in Germany belongs the credit of proving the efficacy of the method and establishing it in the favor of the profession. It ought to be self-evident that for the healing of an ulcer, as well as for the repair of a broken bone, absolute rest of the part is indispensable; and the only way to effect this, in the former case, is manifestly to have the patient lie in bed, which secures physical rest to a large extent, and then to stop for a time feeding by the stomach, so as to prevent the gastric peristalsis and the functional work of the glands with their irritating secretion of HCl. Besides complete physical rest with rectal feeding at first, the Ziemssen and Leube method comprises also the use of hot poultices or hot compresses over the stomach. These should be kept constantly in place, being held there by flannel belts with oiled silk or other impervious material between, the better to retain the moisture and heat, and prevent wetting of the patient's garments or the bed. These hot applications should be changed by day every two or three hours at least, or much oftener when there is acute pain, but if well covered the wet compress will retain sufficient warmth to be left on safely all night. The nutrient enemas should be introduced two or four times a day, according to the tolerance of the bowel, after a preliminary clyster of salt and water for cleansing, and may consist of any of the following, which need not be predigested, experience having shown that this is unnecessary and sometimes increases the irritation and discomfort: Good fresh milk, freshly expressed beef juice, meat powder or somatose dissolved in milk or water, raw eggs, solutions of sugar, butter or olive oil (not more than an ounce or two of the latter a day, lest it provoke loose stools), and solutions of very thoroughly cooked starch. A pinch of salt should be added to each enema. It is probable that in such cases, in which the organism is in urgent need of food, there occurs a reversed peristalsis, by means of which much of the food injected is conveyed to the small intestine, where it is digested.

Ewald recommends as a good enema the following: Two to three eggs are beaten up with a tablespoonful of cold water, Then a tablespoonful of prepared cereal dextrinized by heat is boiled with half a tumbler of a twenty per cent. solution of grape sugar and a wineglassful of claret added. When this is lukewarm, stir in the beaten eggs and add fifteen grains of salt. Van Valzah and Nisbet commend the above enema, but advise that if the contents of the large bowel become acid, both the milk and the sugar be omitted, beef tea being added instead. I should advise that, under the same circumstances, the quite unnecessary sour wine be also omitted.

Dorkin, in a large series of cases, has continued rectal feeding for twenty-three days with good results; but in gastric ulcer, unless hemorrhage should continue (a most unlikely event under such a method of treatment), very cautious feeding by the mouth can be resumed usually by the end of a week. Milk and lime water, equal parts, will constitute the best food to begin with, and when there is any remaining irritability of the stomach, it will be well to give half a tumblerful every hour for a day or two, though sometimes it is necessary to begin with a tablespoonful every half hour. After the first few

feedings, and with the vomiting over, equal parts of milk, lime water and rice water or barley water may be taken in the same way. After two days, the amount of this combination can usually be increased to one or one and a half tumblers every two hours, provided there be no decided atony or dilatation of the stomach. Meanwhile, it will be advisable to continue the administration daily of two enemas at least for another week, in addition to the restricted feeding by the mouth. Beef tea or bouillon is early added to the diet by some, but such preparations are little more than solutions of the meat salts, which are exceedingly stimulating to the gastric glands, and are therefore best not introduced into the stomach in such cases. Lightly boiled or poached eggs without pepper, and only slightly salted, are much safer, and one of these may be allowed once a day in addition to the milk mixture from the fourth to the seventh day; twice a day from the eighth to the eleventh day, and thereafter three times a day. Calf's foot jelly makes another bland and nourishing addition at this stage.

After the eighth day, the patient is to be allowed every three hours a larger feeding as follows: Two tumblers of the milk mixture, in which a cracker may be dissolved, and besides, once a day, instead of the milk, a tumbler of a smooth, well-strained puree made of corn, peas, celery or asparagus. This, in addition to the eggs or calf's foot jelly, provided always the stomach proves to be tolerant of the additions.

By the end of two weeks it is usually safe to add some of the blander starchy preparations, such as Cream of Wheat, Oat Flour, and other similar finely ground and bolted cereals, which are to be thoroughly well cooked and served with fresh milk or even good fresh, sterile cream, when the latter is well tolerated, but not with sugar. Small feedings every three hours, limited strictly to such viands as those above mentioned, should be insisted upon for fully three weeks, and then a more liberal but rational diet may be gradually resumed. The patient will be safer without meat, especially meat fiber not hashed, for months after his apparent recovery, and should avoid still more stringently, for a longer period yet, all alcoholic beverages, spices or condiments (except sparingly of table salt), the sharper acids, as vinegar and very acid fruits, the coarser or cruder vegetables, fried foods, pickles and all the coarser grains. The ordinary rough, unbolted oatmeal and bran bread, as well as the hard crust of any bread, dry toast, zwieback, etc., are hurtful in these cases, being mechanically irritating.

During the rest in bed, massage should be given once or twice daily over the entire body, except the abdomen, which must be strictly avoided—because of the stimulating effect upon the gastric glands. Constipation must be overcome by saline laxatives, preferably sodium sulphate or the Carlsbad salt, except when these disagree, as rarely happens. In case they do, it is usually better to rely upon douches of the colon with salt water or clysters of olive oil, rather than to risk administering the stimulating cathartics.

By the end of three or four weeks, in most cases, you should begin very gradually to accustom the patient to exercise again, in the same way as after the Weir-Mitchell rest treatment of nervous diseases.

The milder cases, that receive this treatment by rest, rectal feeding and very restricted diet, will require little or no medicine for the main disease, and there are not likely to be any complications demanding special treatment in cases thus managed.

If there should be pain or vomiting in spite of the regimen just described, pellets of ice swallowed and allowed to dissolve in the stomach will frequently afford relief. These are useful also to quench thirst during the period of exclusively rectal feeding, and at the same time the mouth may be rinsed as often as desired with cold water. If there should be very

much thirst in spite of these measures, small sips of cool water may be allowed as often as necessary. When there is persistent pain or burning, with no food or only liquids being taken by the mouth, it is usually dependent upon excessive HCl and relief will then usually follow the administration of half to one teaspoonful doses of sodium bicarbonate dissolved in a tumbler of warm (not hot) water. The same should be given half an hour before the three chief feedings daily when the HCl secretion continues large. In all cases that prove stubborn, and in the severe or advanced ones from the start, it is well to institute the Kussmaul-Fleiner treatment with very large doses of bismuth subnitrate. Fleiner washes out the stomach before breakfast and then introduces through the tube ten to fifteen grains of bismuth—two and one half to five drams—suspended in about six ounces of water. But I have found that administering forty to sixty grains in a draught of water, three times a day an hour before food, usually answers every purpose, even without a preliminary lavage. The result of this rest and restricted diet is in most cases remarkable in relieving the pain, vomiting and other symptoms. Singularly enough, so far from always constipating, I have found these large doses sometimes to aid in overcoming constipation, the stools actually becoming more satisfactory than before. When, however, there is a contrary result, enemas of four to twelve ounces of olive oil, or cotton-seed oil, every two or three nights, will usually secure good movements without irritation.

As the design is to have the bismuth form a protective coating over the mucous membrane of the stomach, it might be better to imitate Fleiner's method, without using the tube, by having the patient take, say, two drams of the bismuth suspended in a glass of water upon an empty stomach early every morning at first, and every other morning later on, after a few days such treatment. In cases complicated with acid gastric catarrh, however, in which a profuse secretion of mucus covers the membrane, it would doubtless be better, provided there has been no hemorrhage for a long time, to first wash out and then introduce the remedy through the tube, the patient meanwhile being caused to lie down in such a position as to allow the bismuth to fall especially upon the part of the stomach where the ulcer is located. There would be a manifest advantage in thus following the Fleiner method exactly, when the tube can be used skillfully and gently without endangering a hemorrhage. Fleiner himself is enthusiastic as to the results of this treatment, claiming that even hemorrhage is controlled by it.

Treatment of Complications and Sequels.—Copious hemorrhage is not to be feared while the patient is on a strict rest cure with the diet already laid down. If it should occur under other conditions, put the patient immediately to bed, feed by the rectum, administering small pellets of ice by the mouth and place an ice bag over the epigastrium. The tube is distinctly dangerous in these cases in most hands, yet Ewald records having checked otherwise uncontrollable hematemesis by washing out the stomach with ice water. You will do well also to give large doses of bismuth suspended in lime water with a drop of carbolic acid in each dose, flavored with spirits of chloroform and compound tincture of cardamon. A good soluble form of ergot should also be injected hypodermically, and repeated if necessary. Stimulate per rectum and hypodermically, keep the head low and maintain the body heat. In case of a very small or partial perforation, setting up a local plastic peritonitis, employ ice as in hemorrhage and secure perfect rest. Medicines would not usually be necessary, except opium, to prevent peristalsis. It would be wisest to have the case seen by a surgeon, in all threatening cases at least. Time is the best remedy for the painful adhesions, with sometimes help from very gentle massage.

In the case of a complete perforation into the peritoneal cavity, a skilled abdominal surgeon should be summoned immediately, and meanwhile absolute rest of the patient secured with abstinence from food or drink (except ice pellets), and an ice bag should be placed over the abdomen. Opium in full doses is also desirable for its quieting effect.

Cicatricial contraction of either orifice of the stomach converts the case into a surgical one, and operative intervention should then be insisted upon as indispensable. When this is declined, something can be done in moderate strictures of the pylorus producing gastric dilatation, by controlling the hyperchlorhydria and keeping the stomach contents from becoming too acid. Full doses of sodium bicarbonate (a teaspoonful or more dissolved in warm water), administered several times a day, will in most cases effect this, and thereby generally lessen the dilatation by preventing spasmodic closure of the pylorus.

Whenever cancer develops in an ulcer, the case also becomes one for surgery. If you should be fortunate enough to recognize this change at an early stage, an operation may prove completely curative.

*THE TREATMENT OF FOLLICULAR AND SUPPURATIVE AMYGDALITIS AND THE ANGINA OF SCARLET FEVER BY THE INJECTION OF A SOLUTION OF CARBOLIC ACID.**

By H. JUDSON LIPES, M.D.,

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Heubner, of Leipsic, first suggested the injection of a solution of carbolic acid in the treatment of the angina of scarlet fever, and the successful results obtained prompted others to try the same measure.

Professor Seitz, the director of the Children's Polyclinic at Munich, reports excellent effects by this treatment in scarlet fever, but did not find it of service in diphtheria.

Having been a frequent sufferer from follicular amygdalitis, the writer has used this method on himself after other remedies failed, and received such relief that he concluded to use the treatment in similar cases. The results have been fairly satisfactory.

The method of procedure is simple. Professor Seitz, used a three-per-cent. solution of carbolic acid and injected a few drops into each tonsil at several points. A small syringe was used with a long needle having a shoulder about four millimetres from the point, to prevent too deep introduction and consequent injury to larger vessels. After having used in several cases an ordinary hypodermic syringe with an extra long needle, we procured a special one. The shank and needle proper are together about six centimetres long and have the extremity turned at an angle of forty-five degrees, the elbow being about three millimetres from the point. This form of needle permits the operator to inject the solution into the tonsils easily and safely, the elbow preventing too deep introduction. In children it was necessary, of course, to use a mouth gag and a tongue depressor.

The solution has varied in strength from one per cent. to four per cent. Cognizant of the fact that carbolic-acid solutions, even as weak as one per cent., often produce serious gangrene in children, particularly of the extremities, when applied in poultices or otherwise, it was with some hesitation that even a one-per-cent. solution was used in the younger patients. No bad effects were noticed, however, probably on account of the great vascularity of the tonsils.

The results of this method of treatment are based upon nineteen cases—not enough, perhaps, to establish positively its merits, but the results have been satisfactory in proper cases, and therefore the remedy merits further trial.

* Reprinted from *The New York Medical Journal*, Oct. 21, 1899.

The cases under observation in which this method was tried include five of scarlet fever, six of diphtheria, three of suppurative, four of simple, and three of follicular amygdalitis. A brief *résumé* of the results obtained may perhaps be of interest. All but two cases were among children from 8 months to 15 years of age.

In cases of diphtheria no beneficial effects were observed, at least none that could be ascribed to the carbolic-acid injections, since antitoxine was used immediately in all cases together with other appropriate treatment. In fact, I believe that this method may really be harmful in diphtheria, since it may destroy the combative influence of the staphylococci on the Klebs-Loeffler bacillus.

There was no doubt about the value of this procedure in the cases of scarlet fever. Immediate relief was obtained, with a prompt reduction of the fever and an improvement of the general condition. These cases occurred in girls of four, six, and seven years of age. In the youngest patient, the first one treated, a one-per-cent. solution was used, and in only one tonsil; and, as some relief and no bad effects were observed, a few hours later both tonsils were injected with a three-per-cent. solution. In the two other cases only a single injection was necessary, none of these cases being of severe type.

The four cases of simple amygdalitis were seen in the early stages, and, as prompt abortive measures were tried in conjunction with the injections of carbolic acid, it is impossible to measure the exact value of the injections. All cases responded to the treatment quickly.

More positive results were obtained in follicular and suppurative amygdalitis where the cases were seen sufficiently early. For example, in one case the left tonsil, which was the more inflamed, was treated. The relief was immediate, so that in a few hours the right tonsil, which was yet but slightly inflamed, seemed to be much the worse. In another case where both tonsils were treated; the one which had become inflamed first was not benefited much, the process having proceeded too far, but the condition of the inflammation of the other tonsil was aborted.

A prominent physician of this city presented himself for treatment, and, after informing him of the pleasant results which had been obtained, the injections were permitted. He had suffered from suppurative anygdalitis several times previosuly. One tonsil alone was affected and the inflammatory process had but fairly begun. A three-per-cent. solution was used, and next day he informed me that although he had suffered some inconvenience from the apparent hyperæmia of the tonsil after the anæsthetic effect of the acid had disappeared, the inflammation had subsided and the condition was greatly improved.

In children, amygdalitis occurs more frequently than is generally supposed, and, unless a physician examines the throats of all children systematically, many cases will escape notice. Gargles, sprays, and similar measures are not easy to employ in children, and can not be used in infants at all. With proper assistance, however, it is not difficult to use the injections.

No carbolic-acid intoxication was observed, nor was there any sloughing of the tonsillar tissue, which was greatly feared in the younger children.

A Smoked-glass View.—Pharmacology is still under a cloud and it will be some time before there is a revival of this industry. At present it has no particular place in the medical curriculum.—*Archives of Pediatrics.*

Distilled Water.—*Good Health* editorially combats the opinion that distilled water acts as a protoplasmic poison, though not denying the laboratory experiments that establish its untoward osmotic influence. On account of the salts, especially chlorides, always present in mucus and in the gastric secretion, the editor believes that it may safely be used for drinking and cooking.

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

A. L. BENEDICT, A. M., M. D., - - - EDITOR, BUFFALO, N. Y.

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Editorial.

THE SECTION OF MATERIA MEDICA OF THE A. M. A.

Some of our contemporaries have been concerned regarding an alleged attempt to control the Materia Medica Section of the American Medical Association in the interests of German manufacturers. Some have treated the matter rather hysterically, others with considerable sceptism. The *Journal of the A. M. A.* seems to take the ground that the agitation against foreign control was really a scheme to secure control by domestic manufacturers of secret nostrums. We have seen the corespondence which excited this discussion, and, with all respect for those who have already expressed their views about it, we must say that it does not deserve the attention which has been given it.

For some years the medical graduates employed by drug houses have attended the meetings of this Section, but most of them have carefully avoided any action which could be ascribed to interested motives and have contributed to the scientific value of the programs while declining any office which they might be accused of seeking for commercial ends. If the Section has not been as well attended by active practitioners of medicine as others, it is because medical men would rather operate or diagnose, or make autopsies, than to use the homely means which the vast majority of cases demand for their alleviation.

We are glad to be able to state that the alarm, whether false or well founded, served to arouse an interest in the Materia Medica Section which we have not previously noted. The list of papers, which we have already published, attests the excellence of the matter brought before the Section; and it may be mentioned incidentally, that the flagrant discourtesy which has been so common in the past, of reading a paper and then rushing to some other Section to secure additional homage, was less conspicuous than at previous meetings. There was perpetrated one paper which marred the general character of the program, yet which was of service in demonstrating beyond question the attitude of the Section on matters of ethics. Without quibbling as to whether this paper's object was the advertisement of the writer or of his wonderful medicinal product, it was promptly consigned to the committee on publications without debate.

A few abstracts of the papers will be presented in our next issue, and many others would have been obtained had it not been for the ruling of the editorial staff of the *Journal of the A. M. A.*, that papers published elsewhere in abstract should not be printed in that journal. Without in the least desiring to antagonize this policy, simple justice to the gentlemen whose papers we present, demands that we should take the responsibility for this early appearance of their views.

EDITORIAL NOTES.

THE AUSTRIAN PHARMACOPEIA has been revised, the new standards becoming official July 1, 1900; the revision is made—not in an entirely new edition, but—in the form of an Addition (similar to that added to the German Pharmacopeia, 1890). Some of the new remedies now added to official rank in this Pharmacopeia, are: Acetphenetidin (phenacetin), antipyrin-caffeine citrate, antipyrin salicylate, bismuth subgallate, formaldehyde solution (formalin), resorcin, saccharin, sulphonal, theobromin-sodium salicylate (diuretin), and trional.

The German Pharmacopeia IV (1900) is said to be complete, and will be issued shortly.

Current Literature.

Nausea in Intestinal Obstruction.—Dr. C. N. Brown, in a practical paper in the *Va. Semi-Monthly*, May 25, 1900, says:

It appears to me that I have tried nearly everything there is for vomiting in these cases, and have found the following to be most serviceable: Bismuth and hydrastis solution, 20 drops every three hours in a little cold water; mustard plaster to the stomach and ice-bag to cervical vertebræ.

The following formula is serviceable where there is gastric inflammation:

R Carbolic acid..... 24 drops.
Muc. acacia..... 1 drachm.
Bismuth subnitrate..... 2 drachms.
Oil peppermint..... 2 drachms.
Water..... q. s. 3 ounces.
M. Sig.—Teaspoonful every 3 hours (shake well).

When the vomiting of pregnancy is associated with bowel obstruction, the condition is most perplexing. Orexine tannate in 4 grain doses should be tried three times daily before meal time. When all medicinal measures fail and vomiting persists, abortions or abdominal sections should be done.

Washing out the stomach, the use of ice pellets, together with the proper administration in suitable cases of dilute hydrocyanic acid or cocaine hydrochlorate, are remedies more or less of value in this form of nausea.

Tobacco.—Though not strictly an article of diet, tobacco for practical purposes may be discussed in this category. Thoms, *Apotheker Zeitung*, finds as follows: 20 per cent. of the total weight of cigars remains in the ash. There are two alkaloids present, nicotine and pyridine, the latter being derived from the former. The stump contains four times as much nicotine as the smoke, and as the average cigar contains only 1.12 per cent. of nicotine, comparatively little of either alkaloid even reaches the mouth. In the ordinary method of smoking, it is obvious that a large part of the smoke is lost and that most of that taken into the mouth is blown out with its alkaloids unabsorbed. Thus, only minute quantities of the alkali can be absorbed. Hydrocyanic acid, reported by other analytic chemists, was not found by Thoms, though he does not positively deny the possibility of its presence. Butyric acid was found only in traces. In short, the only constituents that could be harmful were carbon monoxide, produced to the extent of 20 c. c. for each kilogram of tobacco, and an ethereal oil. The former can probably be ruled out. The latter, consisting of pyridine, a phenol, and probably furfurol, but very difficult of analysis, is highly poisonous, causing the symptoms commonly associated with tobacco.

Follicular Tonsillitis.—Dr. M. A. Goldstein discusses this subject in the *Laryngoscope*, April, 1900, and from his interesting paper we quote his summary of treatment:—In follicular tonsillitis complete evacuation and cleansing of these follicles of their infectious contents offer the speediest cure. For this purpose two accessory instruments are especially adapted to enter the follicles, the tonsil-scoop, the curette end of which consists of an oval, blunt, miniature spoon with a bowl sufficiently large to engage the entire contents of a single follicle with each introduction of the instrument, and, as an additional convenience in the applications of medications to the follicles after curettement, a flexible applicator, consisting of a nikel-plated soft-copper wire with a tapering shaft, the end of which is facetted to securely hold a bit of twisted cotton. Each crypt or follicle is thoroughly cleansed with the tonsil-scoop; then into each cleansed follicle the applicator, well armed with a small tuft of cotton saturated with pure guaiacol, is carefully introduced, precaution being taken not to spread the medication over the surface of the tonsil, but directly into the depth of the crypts.

Protargol (10 per cent. solution), trichloractic acid (saturated aqueous solution), and Loeffler's solution have been

used in a similar way with equally favorable results.

These applications are to be made at intervals of eight hours, and, if the cases are seen in the early stages of infection, but two and, at most, three applications effect a cure.

The following gargle completes the local treatment:

℞ Liq. ferri chloridi.... 1 drachm.
Glycerini..... 1 ounce.
M. Sig.: Teaspoonful in a glass of water. Gargle every two hours.

In addition to the local treatment, the greatest stress is laid on three therapeutic factors. 1. A brisk purge, preferably produced by a saline draught, such as 8 to 16 ounces of magnesium citrate. 2 A good sweat as induced by pilocarpine hyrochlorate, $^1/_{12}$ to $^1/_8$ grain, followed by wrapping the patient in blankets in bed. 3. Thorough saturation of the system with sodium benzoate and sodium salicylate.

Aconite Liniment Poisoning. — The *Phila. Med. Journal* quotes the following from a report published by Dr. W. A. Potts in the *Edinburgh Med. Jour.*, Dec., 1899:

The author had under his care a man, aged 75 years, who accidentally swallowed a half ounce of aconite liniment. The mistake was immediately discovered; he was made to vomit very promptly by the administration of mustard water and he was freely purged. There was marked slowing and depression of the heart's action, the pulse falling to 55 and becoming very feeble. Aside from this there was tingling of the entire body; great dryness of the mouth; loss of the sense of taste; slight impairment of vision; coldness of the extremities and pain in the epigastrium. One-fortieth of a grain of sulfate of strychnia was injected hypodermically, and repeated a short time after. As soon as the vomiting ceased he was given an ounce of whiskey. At the end of two hours the symptoms began to abate, and at the end of six hours he had recovered entirely.

Conditions of Terror in Children.— The young are peculiarly susceptible to emotional influences, and these may be of intrinsic or extrinsic origin (editorial in *The Journal* A. M. A., April 28, 1900). Children are readily startled and easily frightened, and in them the imagination responds quickly to stimulation. These facts find their explanation in the irritability and instability of the nervous system in early life, and its prompt reaction to various stimuli. Indiscretions in diet and gastrointestinal, nutritive and metabolic disturbances, constitute the most common etiologic factors in the development of derangements of nervous functional activity in childhood. A not uncommon disorder, whose exact nature is unknown, but which is at times attributable to such an origin, consists in the occurrence of attacks in which the little patient cries out during sleep as if in fright, and is perhaps awakened in great terror. A similar condition of fright, without tangible or at least adequate cause, occurs, though less commonly, during the waking hours, either independently of or in conjunction with the disturbance during sleep. Three cases of this kind are reported by Still, who enters on an interesting discussion of the nature of the disorder. He points out that children who suffer from so-called day-terrors are of excitable nervous temperament. Neurotic heredity is an important predisposing influence, and a family history of rheumatism is not uncommon. By some these states of terror have been thought to be related to epilepsy and mania, but the former are much more amenable to treatment than the latter. Mucous disease, probably with catarrh of the large intestine, is believed to be especially provocative of night-terrors, and often the nervous disturbance will cease when the intestinal disorder is corrected. Adenoid hyperplasia in the pharynx may play a similar rôle. It is not impossible that the same facts apply also to day-terrors. From a comparative and prognostic point of view these may

be considered a more ominous disorder than night-terrors. In treatment, the most important factor is the removal of the exciting cause. Chronic intestinal catarrh will require rigid dieting, with the exclusion of potatoes, pastry and sugar, and the administration of alkalies, such as potassium citrate, perhaps with iron and compound decoction of aloes. Thread-worms, if present, or other cause of irritation, should be removed by suitable treatment. Sedatives, such as bromides, may be required for a time, and they may be combined advantageously with belladonna.

Book Notices.

THE YEAR-BOOK OF THE NOSE, THROAT AND EAR.—THE NOSE AND THROAT, edited by G. P. HEAD, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago. The EAR, edited by ALBERT H. ANDREWS, M. D., Professor of Otology in the Post-Graduate School of Chicago, etc. One volume, 274 pages. Chicago Book Co.

In preface, the editors offer their work as an epitome of the best literature of the year put in convenient form for reference. They also acknowledge indebtedness to abstracts of the leading journals of Laryngology, Otology and Rhinology, Journal of the American Medical Association and the *Philadelphia Medical Journal.*

Their work does not differ essentially from any year-book, being designed as a key to the worthy articles and abstracts therefrom, of the best journals of the current year.

The editor of the nose and throat calls attention to the evident return to conservatism in treatment of ordinary cases. The use of the cautery in intra-nasal operations is being more and more discouraged, being confined to a few exceptional cases. The treatment both of operative and unoperative cases is in general rational and suggestive, though there are no individual cases cited to illustrate the efficacy of the various treatments. Many rare diseases are touched upon sufficiently to induce the reader to refer to the original article. The statement that an anaesthetic should always be administered for the removal of post-nasal adenoids can hardly be accepted as the concensus of opinion of those having the largest experience with their operation.

CHRISTIAN SCIENCE—A Plea for Children and other Helpless Sick. By WILLIAM A. PURRINGTON, of New York. 194 pages, including index. Frontispiece, illustrating a gongrenous foot of a child treated by Christian Science. E. B. Treat & Co., New York, 1900.

The medical profession is fortunate in having so warm a supporter in a member of the legal profession, whose exposition of the follies of Christian Science can not be attacked as based on selfish motives. The work is the plea of a man of common sense and humanity, skilled in the law. It is a plea for the people, not for the medical profession, but it merits the serious consideration of the latter also.

We wish, however, to warn against too much logic in dealing with Christian Science. Many of the Healers are heeling themselves under the pretense of healing the sick. Their adherents are of the class who will support any kind of dogma provided it is novel and can make a claim of martyrdom. Look at the chins of the dupes of Mrs. Eddy and pause before you attempt to convert them. They are persons of refinement, in the sense of wearing good clothes and being free from the pressing necessity of earning their bread by the sweat of their brows. They are persons of education of finishing school kind. They have morals of the kind that ignorance of temptation develops. They are the bandar-log of modern society, anxious to attract attention, hysterically enthusiastic over a chosen fad, but they are not to be taken seriously. The only factor that can be used in controlling Christian Science is the brute force of the law which, without arguing or attempting conversion of belief shall enforce to its utmost potentiality the fundamental legal principle—Thou shalt not kill.

Recent Medicaments.

The "flood of new remedies" is no longer water, but mostly foam or vapor; it doesn't overwhelm—it is too evanescent. Where one really new product, of substantial value, is introduced nowadays, a hundred new preparations in *name* are pushed forward by petty imitators and word-coiners. Moreover, even the meritorious new product, that bids fair to become a permanent addition to materia medica, is eagerly exploited by one after the other imitator, under the guise of a new name—to the temporary confusion of even competent observers. If the hundreds of putative new remedies now listed, and quoted from time to time in current literature, were impartially analyzed, the residuum of legitimate and meritorious simple products or agents would be amazingly small. Probably not over seventy-five definite chemical compounds, introduced during the past twenty years, are legitimate, useful or in general use; yet an index of the pretended new remedies, including synonyms, would very likely exceed five hundred items.

It is one of the objects of this journal to help its readers discriminate between the real and the imitation, and much valuable information on this subject has been published and is recorded in the back numbers of the American Therapist, from the first number issued July 1892 to the present number.

Sapolan is another new dermatological agent, said to be a naphtha-soap-lanolin compound.

Chlorosonin, said to be a compound of chloral and hydroxylanim, has been introduced as a new hypnotic.

Sapodermin (which sounds familiar! where have we met it?) is said to be a new non-irritant, disinfecting or antiseptic agent for skin diseases. It is a soap, containing a soluble caseine compound of mercury, and is applied by allowing the lather to dry on the skin.

Cephalin, a name long ago applied to an alkaloid of ipecac, has been appropriated by a manufacturer for a compound of caffein, sodium salicylate, antipyrin and roasted coffee.

Gasterin is the designation for a new digestant, the gastric juice of dogs. (We became used to pig's pepsin so long ago, that the shock of contemplating the ingestion of dog's juice should not be severe; we can reconcile ourselves to a great many nauseous things in the name of medicine, and still call this the era of palatable drugs).

Heroin in Children's Practice.—Dr. J. Runkel, of Bonn (*Pharm. Centralhalle*, May 10, 1900), considers heroin well suited to allay the irritating coughing in children, although the specific effect on the respiratory organs is exceeded by the narcotic effect which induces refreshing sleep of several hours duration within 20 to 30 minutes after taking the dose. Runkel suggests the following scale of dosage: up to 3 months old, ¼ to ½ mgm.; 7 months, ¼ to ⅔ mgm.; 10 months, ½ to 1 mgm.; 15 months, ½ to 1¼ mgm.; 20 months, ½ to 1½ mgm.

Creosotal in Lobar Pneumonia. — In reading a paper on "Pneumonia" before the New York Academy of Medicine, Nov. 2, 1899 (complete report in *Medical Record*, Nov. 18, 1899), Dr. A. H. Smith said that the salicylates and creosote had been highlv lauded, but he now preferred creosotal, which "had been found to saturate the blood readily without irritating the stomach, and without giving rise to poisonous or other untoward effects."

Dr. W. H. Thomson, in discussing the foregoing paper, endorsed the therapeutic procedure of Dr. Smith, and said concerning creosotal that he had in one case given 20 grains, in emulsion, every two hours, with no other medication whatever, and the man recovered. He had also given creosotal in very large doses to small children with broncho-pneumonia, and had never observed the depressing effect on the heart which creosote itself causes.